A-BOOM
Assembly Instruction Manual

Published 07-05

Part No. 02982978

New Holland TB100 & TB110 (ROPS / 2 & 4 WD)

Tractors equipped with additional options, special equipment, tractor manufacturer modifications, new tractor models, or Customer alterations may prevent this Mount Kit from being properly mounted to the tractor. Alamo Group is not responsible for modifications to the MountKit to accommodate these differences.

ALAMO INDUSTRIAL
1502 E. Walnut
Seguin, Texas 78155
210-379-1480

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MEMBER OF THE ALAMO GROUP
ALWAYS ON THE CUTTING EDGE

TO THE OWNER/OPERATOR/DEALER

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START!! Read the safety messages on the implement and shown in your manual. Observe the rules of safety and common sense!

DANGER
FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.
1.
READ MANUAL
2. NO RIDERS. NO CHILDREN OPERATORS.
3. USE SAFETY SHOES, HARD HAT, SAFETY GLASSES, SEAT BELTS, & ROPS
4. BLOCK UP SECURELY BEFORE WORKING UNDER.
1. Study and understand operator's manual, safety signs, and Instructional decals for tractor and implement to prevent misuse, abuse, and accidents.
● Learn how to stop engine suddenly In an emergency. Be alert for passerby and especially children.
2. Allow no children on or near Implement or tractor. Allow no riders on tractor and implement. Falling off may cause serious injury or death from being run over by tractor or cutter or contact with rotating blades.
3. Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seatbelt fastened securely and snugly to prevent injury and possible death from falling off or tractor overturn. Personal Protective Equipment such as Hard Hat, Safety Glasses, Safety Shoes, and Ear Plugs are Recommended.
4. Block up or support raised machine and all lifted components se curely before putting hands or feet under or working underneath a ny lifted components to prevent crushing Injury or death from sudden dropping or inadvertent operation of controls. Make certain area is clear before lowering or folding.
5. Before transporting, put Lift Lever in detent or full-lift position. Secure the implement for transport by installing Cylinder Stops or Transport Pin on Pull-type implement center axle and Wing Transport Locks on folding implements.
● Attach Safety Chain to cutter and towing unit securely. See Operator's Manual.
6. Make certain that the SMV sign, Warning Lights, and Reflectors are clearly visible. Follow local traffic codes.
7. Never operate with Cutting Head raised if passerby, bystanders, or traffic are in the area to reduce possibility of injury or death from Objects thrown by Blades under Guard or cutter structure.
8. Before dismounting, secure implement in transport position or lower to ground.
● Put tractor in park or set the brake, disengage PTO, stop engine, and remove key, and wait until noise of rotation Has ceased to prevent entanglement in rotating parts which can cause injury or death.
● Never mount or dismount a moving vehicle. Crushing from runover may cause injury or death.
5. TRANSPORT SAFELY, LOCK UP.
6. USE SMV, LIGHTS, & REFLECTORS.
7. DO NOT OPERATE WITH CUTTER OR WING RAISED.
8. DO NOT MOUNT OR DISMOUNT WHILE MOVING.
00749117

WARRANTY INFORMATION:

Read and understand the complete Warranty Statement found in this Manual. Fill out the Warranty Registration Form in full and return it to within 30 Days. Make certain the Serial Number of the Machine is recorded on the Warranty Card and on the Warranty Form that you retain.

INTRODUCTION

ABOUT THIS MANUAL:

The intent of this publication to provide the competent technician with the information necessary to perform the CORRECT Assembly to the Alamo Industrial Product. This will, in turn provide for complete customer satisfaction

It is hoped that the information contained in this and other Manuals will provide enough detail to eliminate the need for contact of the Alamo Industrial Technical Service Dept. However, it should be understood that many instances may arrive where correspondence with the Manufacturer is necessary.

CONTACTING MANUFACTURER: (Please help us Help You! Before You Call!)

Alamo Industrial Service Staff Members are dedicated to helping you solve your problem, or your customer's service problem as quickly and efficiently as possible. Unfortunately, we receive entirely to many calls with only a minimum amount of information. In some cases, the correspondent has never gone out to look at the equipment and merely calls inquiring of the problems described to him by the operator or customer.

Most calls received by Alamo Industrial Service can be classified into approx. 6 general categories.

1. Hydraulic or Mechanical Trouble Shooting.
2. Request for Technical Information or Specifications.
3. Mounting or Fitting Problem.
4. Special Service Problem.
5. Equipment Application Problems.
6. Tractor Problem Inquiries.

HOW YOU CAN HELP:

Make sure the call is necessary! Most of the calls received may not be necessary if the Dealer Service Technician would do the following.

1. Check the Service Information at your Dealership provided by Alamo Industrial, This would include, Service Bulletins, Information Bulletins, Parts Manuals, Operators Manuals, Assembly Manual or Service Manual, many of these are available via the Alamo Industrial Internet site (www.Alamo-Industrial.Com). Attempt to diagnose or repair problem before calling.

2. If a call to Alamo Industrial is needed, Certain Information should be available and ready for the Alamo Industrial Service Staff. Such information as, Machine Model, Serial Number, Your Dealer Name, Your Account Number and Any other information that will be useful. This information is vital for the development of a prompt and correct solution to the problem. This will also help to develop a database of problems and related solutions, which will expedite a solution to future problems of a similar nature.

3. The technician may be asked to provide detailed information about the problem including the results of any required trouble shooting techniques. If the information is not available, The technician may be asked to get the information and call back. Most recommendations for repairs will be based on the procedures listed in the Service Manual / Trouble Shooting Guide and Information provided by customer.

CONTACT ALAMO INDUSTRIAL:

Alamo Industrial, 1502 E. Walnut St. Seguin TX. 78155, Technical Service Dept. PH: 830-379-1480

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NOTES

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Section 1

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

SAFETY SECTION

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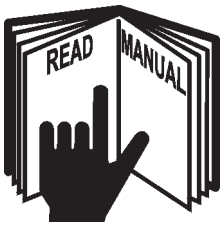
Read these assembly instructions through completely and understand them before proceeding with the assembly of the equipement.



A safe and careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this Implement. This equipment should only be operated by those persons who have read the Manual, who are responsible and trained, and who know how to do so safely and responsibly.

The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: **"ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!"** The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment..

Practice all usual and customary safe working precautions and above all---remember safety is up to <u>YOU</u>. Only <u>YOU</u> can prevent serious injury or death from unsafe practices.

CAUTION! The lowest level of Safety Message; warns of possible injury. Decals located on the Equipment with this Signal Word are Black and Yellow.

WARNING! Serious injury or possible death! Decals are Black and Orange.

DANGER! Imminent death/critical injury. Decals are Red and White. (SG-1)

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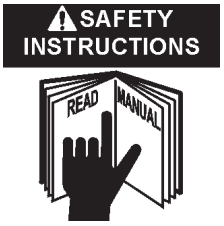
PELIGRO! Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)

!LEA EL INSTRUCTIVO!

<u>READ, UNDERSTAND</u>, and <u>FOLLOW</u> the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2)



PELIGRO! Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)

¡ LEA EL INSTRUCTIVO!

WARNING! Perform service, repairs and lubrication according to the maintenance section. Ensure the unit is properly lubricated as specified in the lubrication schedule and all bolts and nuts are properly torqued. Failure to properly service, repair and maintain this Implement in good operating condition could cause component failure and possible serious injury or even death. (SG-35)

WARNING! Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the tractor--particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)

DANGER! Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SG-14)

WARNING! Use caution and wear protective gloves when handling sharp objects such as blades, knives, and other cutting edges. Be alert to worn component surfaces which have sharp edges. Sharp surfaces can inflict severe laceration injuries if proper hand protection is not worn. (SG-37)

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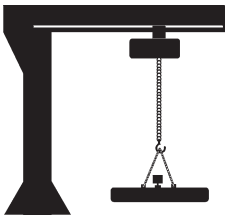
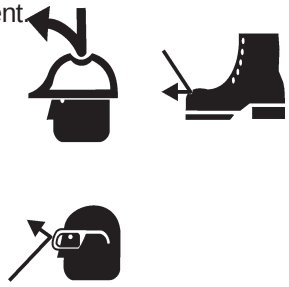
WARNING! Many of the parts are heavy and require lifting assistance. Do not try to lift the heavy parts by yourself. Get help from another employee or from an overhead crane.

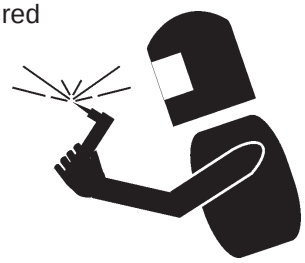


WARNING! The operator and all support personnel should wear hard hats, safety shoes, safety glasses, and proper hearing protection at all times for protection from injury including injury from items thrown by the equipment. (SG-16)

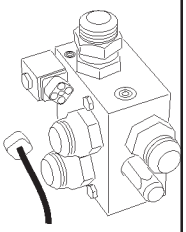
WARNING! Always wear safety shoes with steel toes when working on this equipment. It is recommended that the safety shoes have metatarsal guards.



WARNING! When welding use Welding hood with the appropriate OSHA required protective lens, welding apron, and welding gloves.



DANGER! Always disconnect the wire leads from the mower valve solenoid before performing service on the Tractor or Mower. Use caution when working on the Tractor or Mower. Tractor engine must be stopped before working on Mower or Tractor. The Mower Blades could inadvertently be turned on without warning and cause immediate dismemberment, injury or death. (SBM-12)



DANGER! Never run the tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health.

(SG-23)

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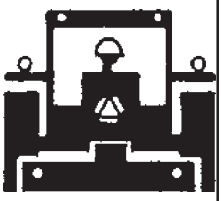
DANGER!

Before starting the mower make sure the area is clear and the floor has been swept. The mower blade can throw objects several hundred feet. Thrown objects could damge property or cause severe bodily injuries even death.

WARNING!

Make certain that the “Slow Moving Vehicle” (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations. (SG-6)



DANGER!

Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in injury or death. Read the Tractor operators manual for proper starting instructions. (SG-13)

DANGER!

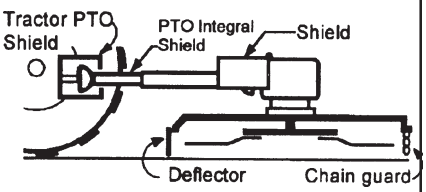
Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. If oil does penetrate the skin, have the injury treated immediately by a physician knowledge-able and skilled in this procedure. (SG-15)

WARNING!

Always read carefully and comply fully with the manufacturers instruc-tions when handling oil, solvents, cleansers, and any other chemical agent. (SG-22)

DANGER!

All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Chain Guards, Steel Guards, Gearbox Shields, PTO integral shields , and Retractable Door Shields should be used and main-tained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SGM-3)



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DANGER! **NEVER use drugs or alcohol** immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. **NEVER** knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)

DANGER! Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

WARNING! **Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. (SG-30)**

WARNING! **Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash Hands after handling. (SG-31)**

WARNING! Use extreme caution when getting onto the Implement to perform repairs, maintenance and when removing accumulated material. Only stand on solid flat surfaces to ensure good footing. Use a ladder or raised stand to access high spots which cannot be reached from gound level. Slipping and falling can cause serious injury or death. (SG-33)

WARNING! Avoid contact with hot surfaces including hydraulic oil tanks, pumps, motors, valves and hose connections. Relieve hydraulic pressure before performing maintenance or repairs. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-34)

WARNING! Avoid contact with hot surfaces of the engine or muffler. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-38)

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Section 2

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

TOOL REQUIREMENTS AND PRE-DELIVERY INSPECTION CHECKLIST

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Assembly Tools & Supplies Needed

Tools that are recommended to complete this assembly. There are number of different ways to do things, some items are recommended to make assembly easier but may not be required.

1. An over Head Hoist, the hoist (or Lift) should be a 2-1/2 ton capacity minimum. Hoist should be able to move and stop within fractions of an inch. Hoist should also have a 12 foot lift (Required).

2. Compressed Air, Air must be filtered and dry. A Safety air nozzle for blowing out Hoses and Fitting prior to assembly. (Required).

3. Complete Air Impact Sockets, 1/2" Drive and 3/4" drive (Recommended).

4. Torque Wrench, 400-ft lb. rating, can use a Torque Amplifier Wrench. (Required)

5. Complete Set of Hand Wrenches from 7/16" to 2" (Recommended).

6. Assortment of Screwdrivers, (Short ones and Long ones). (Required)

7. Electric Grinder or Air Grinder, Size according to needs (Required).

8. Burr Grinder, Electric or Air optional, for resizing Holes and removing Burrs from stamped metal or stamped holes. (Required)

9. Welder, capable of welding up to 3/8" material, Use experienced Welder Personnel. (Required)

10. Flame Proof or flame retardant Material to Cover and protect Tractor finish and components during assembly. (Required)

11. A good fire Extinguisher on hand before any welding or grinding begins. (Required)

12. Clean dust free work area, clean Lint Free towels or wipes. Do not do any welding, use compressed Air or lay out any component unless area is clean. Material the size of a human hair can contaminate the Hydraulic System (Required).

13. A place to keep all Components separate and clean until ready for them (Recommended)

14. Electrical Butt connectors and Electrical Pliers. (Required)

15. Paint Scraper to remove Paint before welding. (Recommended)

16. Floor Jack, 2-1/2 Ton capacity (Required)

17. An assortment of large C-Clamps (Required)

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PRE-DELIVERY INSPECTION CHECKLIST

Pre-Operation Inspection: After Assembly is complete. Check the following items before operating the unit to assure that they are properly assembled. (See following page 1-4 for component location)

Safety Equipment:

----- Operators Manual is with Unit.
----- The Safety Decals are installed as listed in the Assembly Manual.
----- Valve operation plate is installed.
----- Operators cage or Tractor Cab is in place. (Item 1 page 1-5)
----- Deflectors are installed on the Mower Head. (Item 2 page 1-5)
----- Tractor Rops or Cab with seatbelts installed properly.

Frame and Boom:

----- Axle Plate Bolts are torqued to 240 ft. lbs. (Item 3 page 1-5)
----- Boom Rest Axle Plate Bolts are torqued to 240 ft. lbs.
----- Front Rail Bolts are torqued to 170 ft. lbs. (Item 17 page 1-5)
----- Front Support Bolts are torqued to 240 ft. lbs. (Item 4 page 1-5)
----- Hydraulic Tank mounting Pins / Bolts in place correctly.
----- Boom Main Pins are torqued to 170 ft. lbs.
----- King Pin Retaining Nut is properly locked in place.
----- All Welds inspected to insure proper welds and locations.

Hydraulic System:

----- Oil Level in Hydraulic Tank is within the sight gauge. (Item 5 page 1-5)
----- Hose connections are tightened according to specifications.
----- Hoses do not have any kinks or twist in them.
----- Front Pump Shaft adapter bolts are tight. (Item 6 page 1-5)
----- Front Pump Shaft Coupler / Drive Shaft is lubricated and has an anti-seize compound on the Splines of Pump and Shafts. (Item 7 page 1-5)
----- The Pump Drive Shaft has correct alignment.
----- Suction Hose has no leaks or kinks.

Rotary Mower Head:

----- Skid Shoe Bolts are torqued to 120 ft. lbs. (Item 8 page 1-5)
----- Spindle Housing Bolts are torqued to 400 ft. lbs. (Item 9 page 1-5)
----- The Spindle Housing is properly lubricated. (item 10 page 1-5)
----- Motor Bolts are torqued to 120 ft. lbs. (Item 11 page 1-5)
----- Blade Carrier (Bar) Bolts torque to 400 ft. lbs. (Item 12 page 1-5)
----- All Blade Bolts are torqued, the retaining Pins are in place. (item 13 page 1-5)
----- Blades Swing freely. (Item 14 page 1-5)

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PRE-DELIVERY INSPECTION CHECKLIST

Pre-Operation Inspection: Check the following items before operating the unit to assure that they are properly assembled. (See following page 1-4 for component location)

Flail Mower Head:

___ Skid Shoe Bolts are torqued to 120 ft-lbs (Item 15 page 5)
___ Motor Bolts are torqued to 120 ft-lbs
___ Belt Alignment& tension adjustment is correct
___ Cutter shaft bearings are properly lubricated
___ Roller bearings are properly lubricated (Item 16 Page 5)
___ Blades swing freely

Tractor Mower Operation Inspection:

___ Using all Safety precautions, operate the Tractor and Mower unit for 30 minutes and while the unit is running check the following items: **Note!** Only make adjustments after the mower has been turned off and all motion has stopped and all hydraulic pressure has been relieved.

___ No Hydraulic oil leaks at the hose connections
___ Operate the boom and mower head throughout its full range of motion and check for hose's rubbing, pinching, or kinking.
___ Make sure the Return Filter Gauge is reading in the Green after Oil is warm.
___ Check the function of the Mower Head On-Off Valve and switch for proper function
___ Make sure that the tractor will not start with the mower on-off switch in the on position.
___ Check the Blade Rotation for the Rotary Mower Head to make sure it is turning Clockwise looking from the top of the mower deck.
___ Make sure the control valve boom movements agree with the valve operation decal.
___ Make Sure Boom Movement operates as expected and is smooth and under control (no air in the control system)
___ Look for any unusual or excessive noise or vibrations.
___ Make sure all Wheel Weights are installed, Tires are Filled with liquid and Counter Weight is installed
___ Make sure the left rear wheel of the tractor stays on the ground when the boom is fully extended horizontally with 200 lbs. placed on the outside of the mower head.

Post-Operation Inspection:

___ Check that the oil in the hydraulic tank has not turned milky in color or has foam on top.
___ Check that there are no loose fasteners or hardware.

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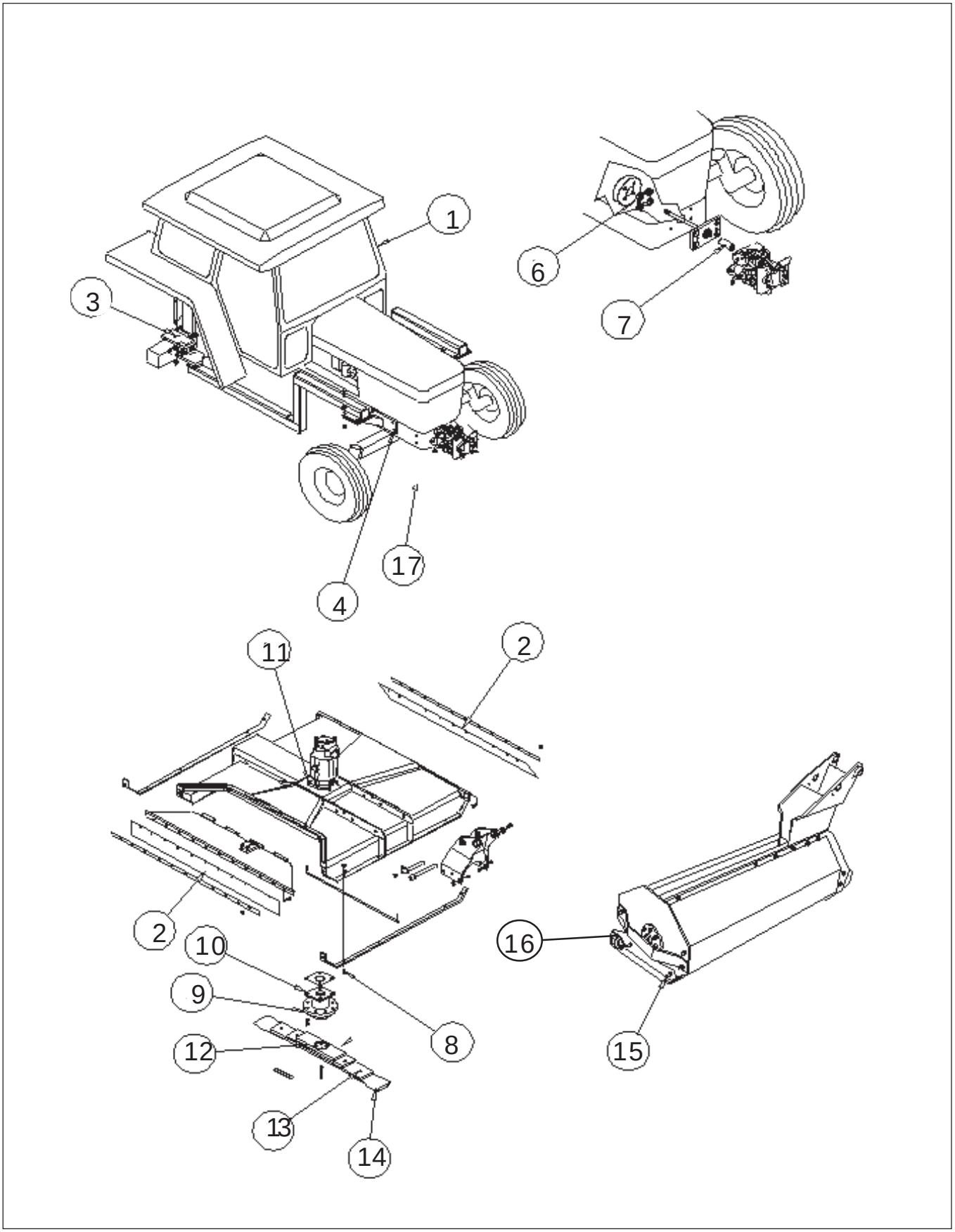
Tractor - Mower Component Location



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NOTES

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Section 3

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Optional Wheel Weight Installation

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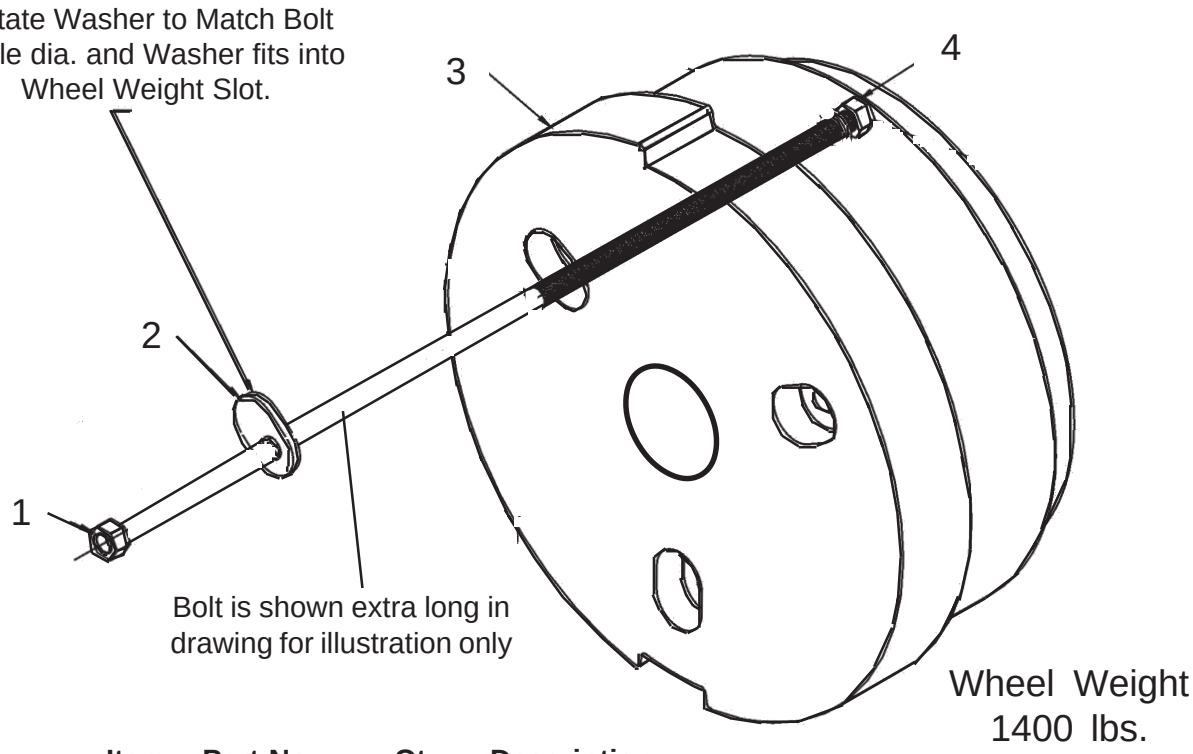
Rear Wheel Counter Weight

Fill Left Rear Wheel with Liquid:

The Left Rear Wheel must be filled with liquid. Alamo Industrial recommends a Calcium Chloride Water Mixture. The recommended Ratio of a 30 / 70 mix (30% Calcium Chloride and 70% Water), this mixture will add weight at about 10.5 lbs per gallon. Follow the Mixture procedures furnished by the Manufactured of the Brand of Calcium Chloride that you are using. It is also recommended that a trained person installs the calcium Chloride. Calcium Chloride must be added in addition to the Optional Steel Wheel Weight and the Counter Weight that hangs on the Left Side. It is Not recommended to use straight Water in the Wheel as this would not provide protection against freezing. A 30/70 Calcium Chloride Water mixture provides anti-freeze to approx -50 deg. F. below 0.


Rotate Washer to Match Bolt Circle dia. and Washer fits into Wheel Weight Slot.
3
4
2
1
Bolt is shown extra long in drawing for illustration only
Wheel Weight 1400 lbs.

Item	Part No.	Qty	Description
1	02979603	3	Hex Head Bolt, 7/8" NC X 16"
2	02971569	3	Wheel Weight Washer, Special
3	02970758	1	Wheel Weight Casting, 1400 lbs.
4	5JRC1490	3	Locknut, Top Lock 7/8" NC
5	02977486	a/r	Wheel Weight Adapter Kit (Not shown)

Note: some Older Units used a All Thread Rod with Hex Nuts Lock Nuts, with Flat Washer and Lock washer. This was replaced with the Bolt Type shown above. These Bolt and Nut combinations will replace the old All Thread type.

Figure 1

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Rear Wheel Counter Weight

Installing Wheel Weight

1. This Wheel Weight is 1400 lbs. Always use caution when working with it.

2. Set Wheel Width. Make certain that you have set the wheel width to where you need it before installing wheel weight. (See Figure 2). This may mean turning wheels and/ or wheel disk around or switching tire and wheels from side to side before turning them around. It is recommended to extend the wheels out as far as possible for wheel track width.

3. Locate the three Holes in LH Rear Wheel. Make sure these holes are 15/16" dia. if not, they must be reamed out. (See Figure 3)

4. Lift Left Rear Tractor Wheel till it just clears the ground. This will allow the Wheel to be rotated when aligning mounting holes for Weight. Wheel Weight is shown with optional extra weight plates added to the wheel weight. These optional plate will weigh approx 135 lbs each plate (3 plate equal approx 405 lbs extra) (See Figure 4) The optional extra weights will have to be special order item.

5. Using a forklift, lift Wheel Weight into Wheel. When Wheel Weight is centered in Wheel Secure Forklift and Set Parking Brake on Forklift. Insert one of the three bolts through Weight and Wheel (Rotate Wheel to align holes if needed). Install a Hex Lock Nut on inside. Insert the other two Bolts through Weight and Wheel and start the other two Locknuts. Do not tighten yet. **(See Figure 3)**

6. Looking at the outside make sure the three special Washers **(See Figure 1)** are aligned with the Slots in the Wheel Weight. Tighten the three Bolts now. You will need an assistant to hold the other Side while you are tightening the Bolts. While tightening Bolts, check to make sure the three special washers are seated correctly. If these Bolts are tightened and washer are not seated into the recess on Wheel Weight, damage will occur. **(See Figure 3)**

7. Remove forklift away from Wheel and Weight. Recheck tightness of Wheel Weight retaining Bolts. Bolts should torque to 500 ft. lbs.

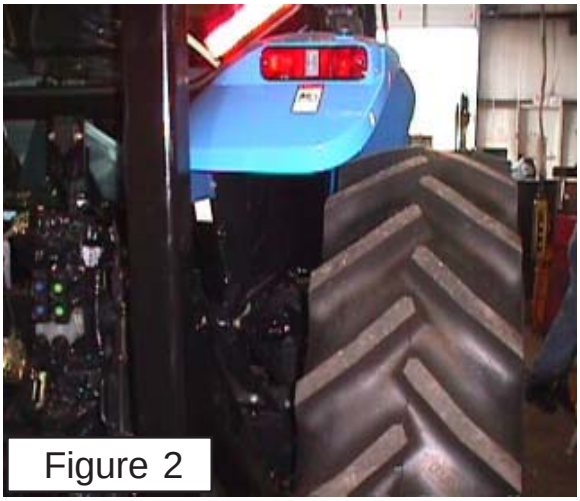

Figure 2

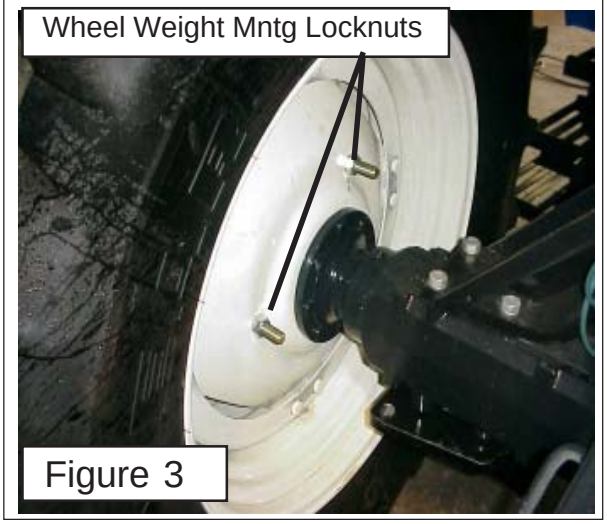

Figure 3

Figure 4

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NOTES

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Section 4

A-Boom

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Front Pump
&
Drive Shaft
Installation

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Pump / Drive Assembly Instructions

Installing Pump, Pump Drive Components and Hydraulic Tank:

This Section covers installation of Pump and Pump Drive Components, Pump Assembly and the Hydraulic Tank. Some precautions must be followed during the Assembly Process and before unit is ever started for the first time.

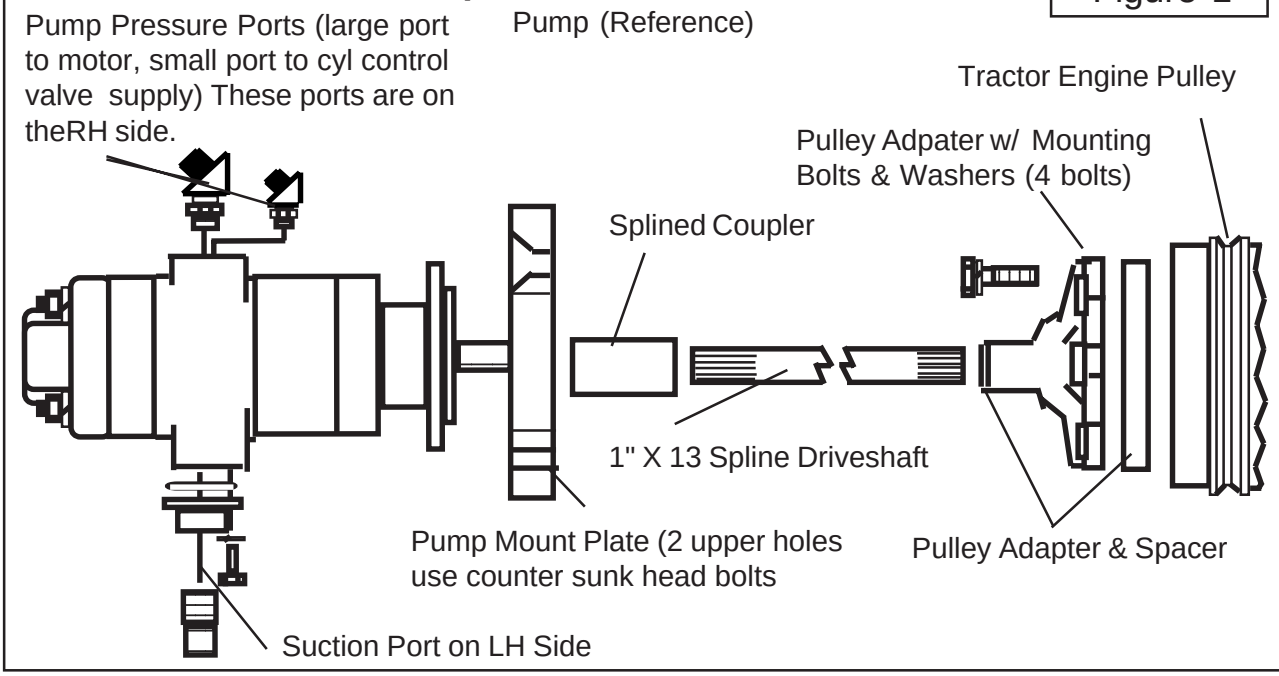
1. Tractor must be disabled to prevent accidental engine start and prevent damage to components.
2. All Fittings, Hose, Cylinders, Tank must be kept plugged at all times, No part of the Hydraulic System can be left open at any time during mounting process, this will keep system clean.
3. All Tools, Work Area, Components and Workers Hands must remain Clean when working on any part of the Hydraulic System.
4. All components should be rechecked for tightness at least twice, Hose routing also double checked.
5. Shown in Figure 1 is the schematic for the pump mounting components, showing the driveshaft going through the front bolster of tractor. Located these components in the packing crate. (See Figure 1) NOTICE See Parts list as to which driveshaft is used on which tractor model!

Pump & Driveshaft and components :

Part No.	Qty	Description:
02966404	1	Spacer, f/ Pulley Adapter
02702900	1	Hub, Pulley Adapter
106733	1	Driveshaft
02957635	1	Splined Coupler 1" X 13 Spline
02980349	1	Pump Mount Plate
02961826	1	Tandem Pump Asy

Pump & Driveline Schematic

Figure 1


Pump Pressure Ports (large port to motor, small port to cyl control valve supply) These ports are on theRH side.
Pump (Reference)
Tractor Engine Pulley
Pulley Adpater w/ Mounting Bolts & Washers (4 bolts)
Splined Coupler
1" X 13 Spline Driveshaft
Pump Mount Plate (2 upper holes use counter sunk head bolts
Pulley Adapter & Spacer
Suction Port on LH Side

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Pump / Drive Assembly Instructions

Pump & Driveshaft components :

1. Preparing Pulley Adapter, The pulley adapter has US standard size holes, the Engine Crankshaft pulley uses Bolts which go through through the pulley adapter (P/N 02966404) and the pulley Hub (P/N 02702900). The pulley adapter and the pulley hub are bolted on with the same bolts. (See Figure 2, 3, 4 & 5).

2. Pulley Adapter Spacer, The pulley adapter spacer (P/N 02966404) is installed between the pulley adapter (P/N 02702900) and the crankshaft pulley (See Figure 1 & 3).

3. Insert Pulley adapter into Tractor Engine Compartment. This can be a difficult job as there is not a lot of room to see after you get your hand in the opening (See Figure 4). This is easier if two people work on it. On the bottom side under the engine there is a hole in the front bolster that you can reach to start the bolts in the pulley adapter, make certain to start all the bolts before tightening any (See Figure 5 & 6).

Figure 2

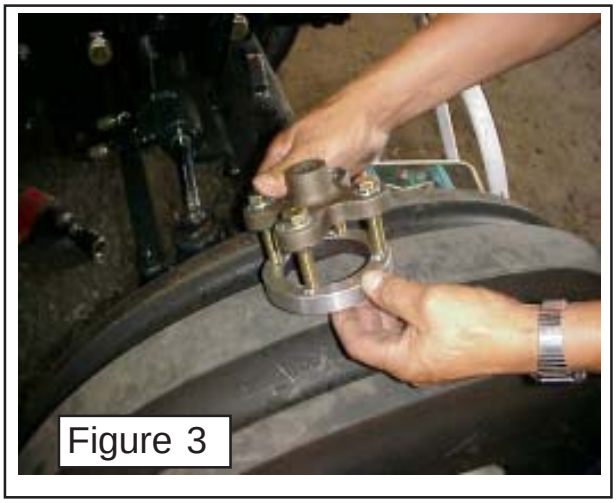
Figure 3

Figure 4

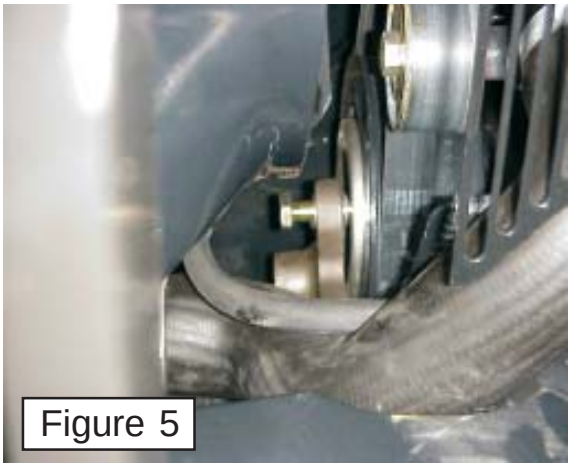
Figure 5

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4. Tightening Pulley Adapter, The pulley adapter can be tighten by inserting a wobble socket through the driveshaft access hole (See Figure 6, 7 & 8). This is difficult for one person as it is difficult the align socket with bolt heads, a second person can assist by aligning the socket from the side of the engine. The four bolts for the pulley adapter and hub are the same bolts so they will be tightening the adapter and hub at the same time. Check to make certain the adapter and hub are tightening down evenly. DO NOT over tighten the four mounting bolts as the bushings in the bolt holes are set in rubber. If you need to turn the engine you can install the splined shaft into the pulley adapter and the spline coupler on the driveshaft, turn the engine using a strap wrench on the spline adapter. DO NOT try to turn engine using any kind of wrench on the splines of the shaft as you will damage the splines on the shaft (See Figure 9).

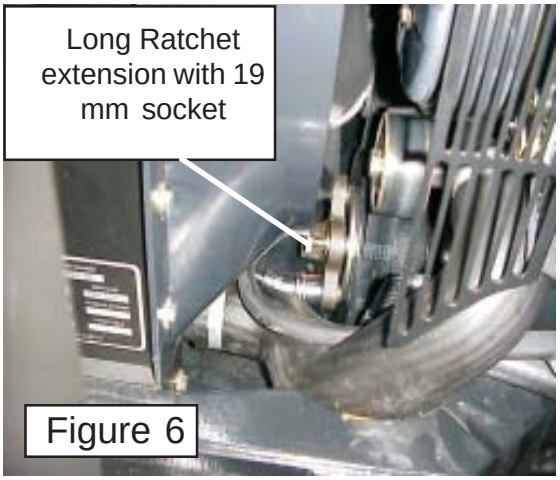

Figure 6

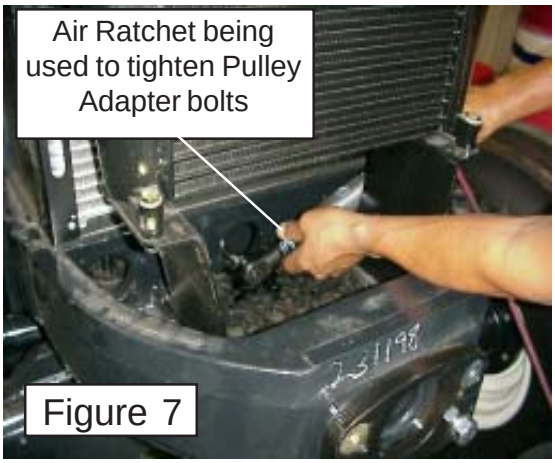

Figure 7

5. Install Pump Driveshaft & Coupler. Coat the slpines of the driveshaft with an anti-sieze compound. Install the pump driveshaft (P/N 106733) and the spline coupler (P/N 02957635) into the front bolster hole and into the engine crank shaft adapter. Make certain that the shaft is engages into pulley adapter. (See Figure 9)

6. Install the Pump Mounting Plate. The pump mounting plate (P/N 02980349) will only work mounted one way (See Figure 9). The four holes are for Allen head counter sunk bolts. The mount plate must be installed this way because of the pump mounting over the two top bolts (See Figure 9). Torque the mounting bolts as according to the bolt torque chart in the general information section.

7. Install the Pump. The pump asy (P/N 02961826) will install with the single port (Suction Port) to the LH side and the dual port (Pressure Ports) to the RH side (See Figure 10). DO NOT take shipping plugs off of any fittings or hoses until the hoses are ready to be connected, this will keep the hydraulic system free of contamination.

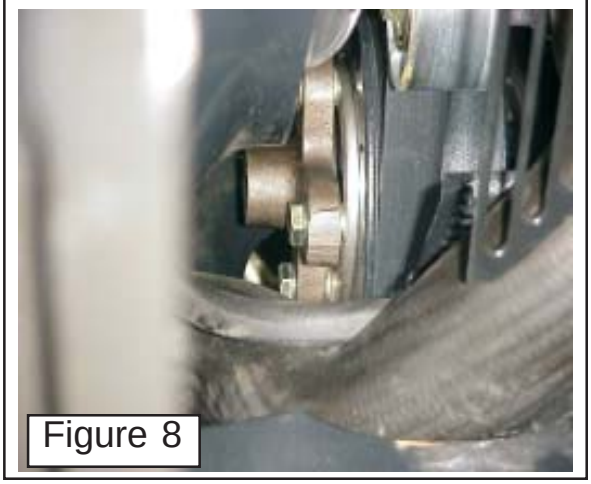
Figure 8

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8. Install Pump Guard Kit. This Pump Guard Kit (P/N 02980880) is optional order equipment. Find three threaded holes in each side of LH & RH tractor frame (See Figure 11), remove the bolts from these holes if any are there. Install the pump guard weldment to these and tighten it down if it was ordered as optional equipment. (See Figure 11). Note Figure 11 shows hoses already connected, this is for illustration only do not connect hoses at this time.

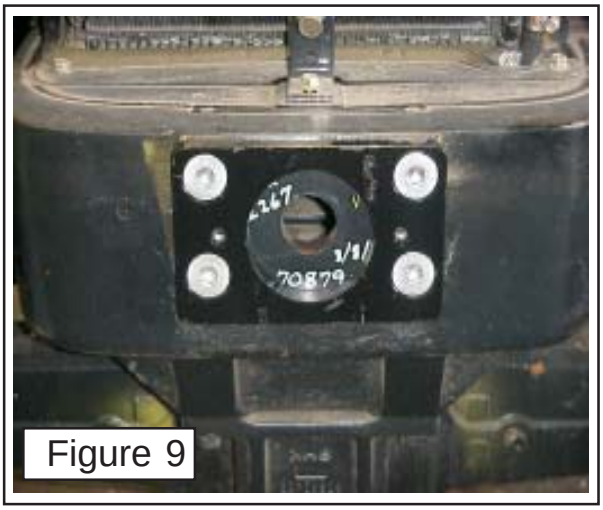

Figure 9

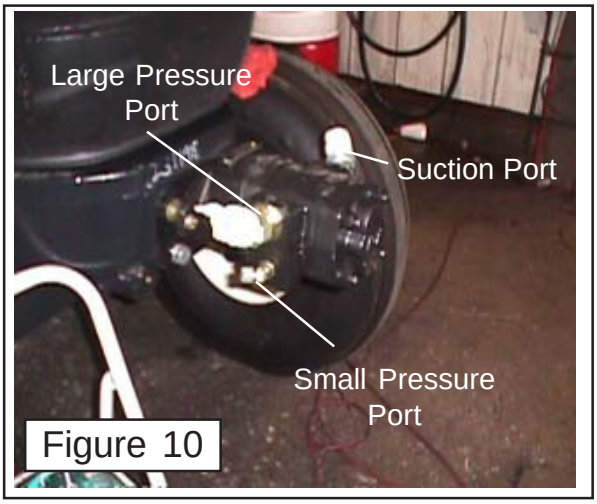

Figure 10

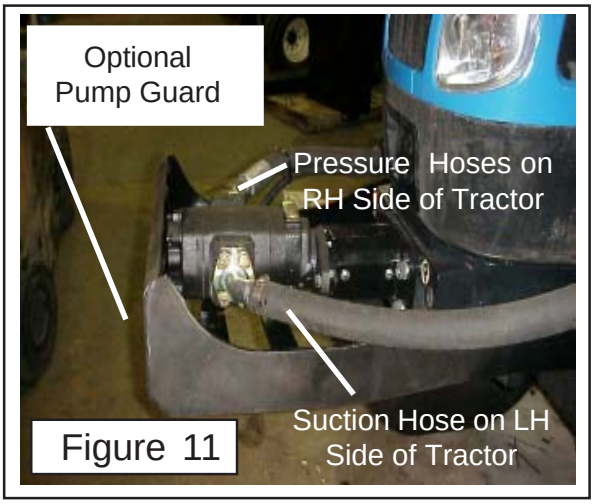

Figure 11

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NOTES

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Section 5

A-Boom

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Frame Rail / High Frame
Setup / Assembly
Installation

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Frame Rail Set Up

Frame Rail Assembly:

The Frame Rail Set UP. The Frame Rails for the A-Boom will be set up on the tractor, positioned, measured but not welded. The A-Boom High frame is set on to Frame Rails, positioned and leveled. After all is set up and positioned it will be Tack Welded in Place on Tractor. Then it will be disassembled and welded up on the Shop floor. This is done to ensure better welds and to enable the parts to be turned so the components can be Flat Welded. It has been found that this will make the components stronger. This also gives a chance for all frame components to be test fitted and broken loose during this trial if another component makes the previous interfere with something. This also will make paint touch up easier.

The Tractor should be covered and protected from Sparks from the Welder and Grinder at all times. It will be your responsibility to protect the Tractor and its components. **DO NOT WELD or GRIND** near any Glass or Painted Surface unless it is protected from sparks, these Sparks will damage any surface.

The purpose for Setting Frame up, tack welding it then removing it, is because with the amount of Welding that will have to be done these frame components will need to be repainted. The repainting is easier with frames off. The Frame components are shipped already painted but this is to protect the metal, plan on repainting them after welding. The frame Rails can be mounted, tack welded then removed to weld and paint or left on the tractor and welded, this is because all components are pre-welded to the frame rails with the exception of the front mounting plates, this decision will be up to the installer. The High frame will have to be removed to be welded, this is because the under side of mounting tubes must be welded to high frame and this cannot be done with it on the tractor.

DO NOT weld any frame or component until instructed to do so in the instructions. Read through this entire instruction book to be familiar with which part goes where and when. Constantly keep in mind that when mounting components that you must be able to raise the Hood with out interference from the mounting components. Also make certain when mounting unit that you **DO NOT** mount components where they will interfere with the removal of the tractor engine air cleaner. This should be checked as the assembly goes along and before any final welding is done.

DO NOT try to man handle large components alone, one slip can break a window, damage a hood or worse. Note the order of assembly of other Assemblies, example the Pump Drive Shaft, Front Rail Supports, Rear Stack Valve Modifications and Joystick Assembly are assembled to Tractor before the frame rails. This is because some components will be in the way of others after they are assembled..

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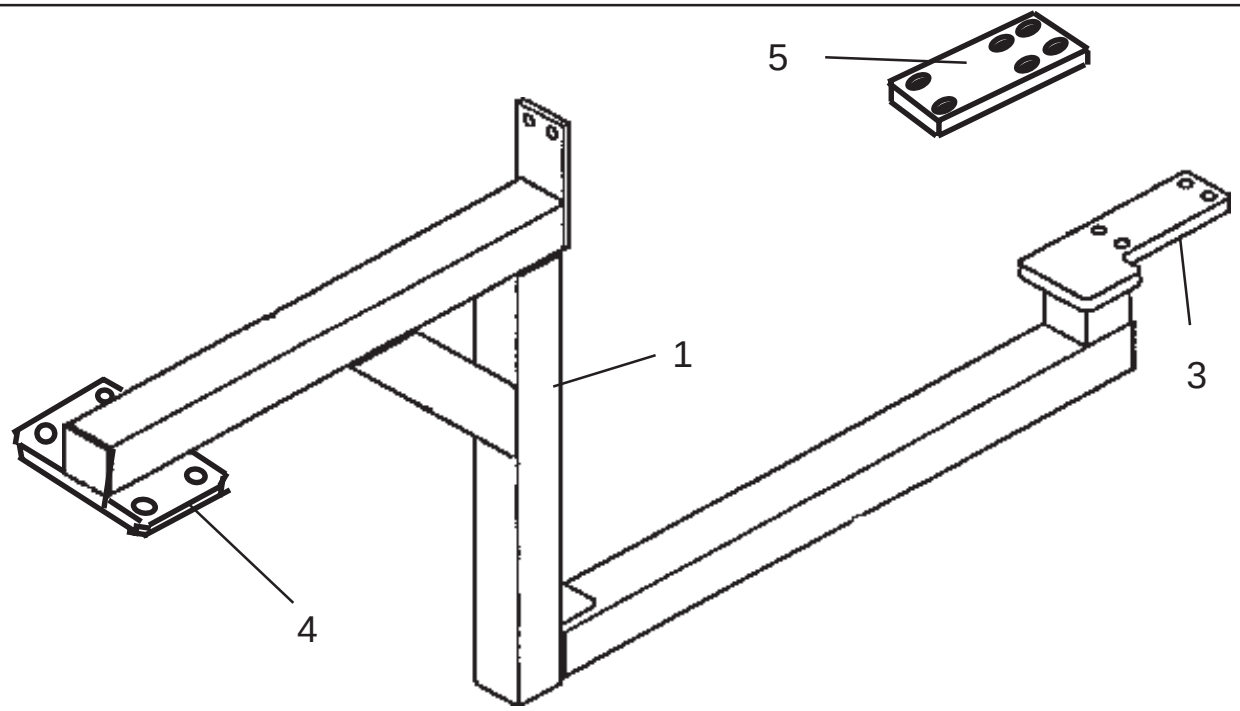
Frame Rail Installation

Frame Rail Assembly: (continued)

RH & LH Frame Rails. Shown below are example of Frame rails, There is a Right and Left Frame Rail, They will not interchange from side to side. LH must be mounted on the Left and Right on the Right. To ID which is which, the easiest way is to look for the Counter Weight Mounting Tubes **(See Figure 1 Item 2),** these are welded on to the LH Frame Rail Only. The Rail Mounting Pad (See Figure 1 Item 4) is loose and not welded to the front of the Frame Rail until final assembly.



Item	Part No.	Qty	Description
1	02980343	1	Frame Rail Weldment, LH (Shown)
	0298.344	1	Frame Rail Weldment, RH (Not Shown)
3	----------	2	Rear Mounting Plate (Welded on LH and RH Frame Rail)
4	02725900	2	Support Plate (not welded to frame rail when received)
5	02726700	2	Axle Strap, Fit above Axle.

Note:

Item 3 is welded to both LH and RH Frame Rails from the factory. Item 4 will be welded on during assembly procedures. Do not weld on any components until instructed to do so, then check instructions carefully because some components are only to be tack welded then removed to be welded later.

Actual Tube Design may vary from drawing above. Shown above is a general Frame Rail Weldment. While Frame Rails may be designed different the mounting process will be the same.

3 Point Arm Stabilizers on tractor will have to be removed when mounting Frame rails and will have to be modified to be used again. This modification will be customers responsibility.

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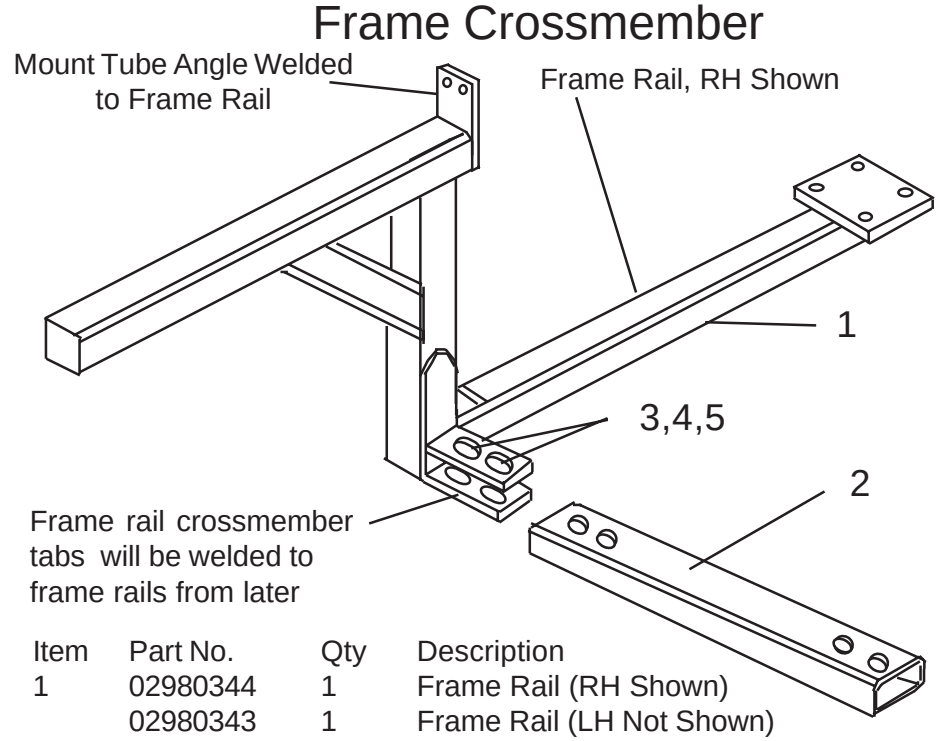
Frame Rail Installation

Frame Rail Assembly: (continued)

Frame Rail Stiffener Kit (Crossmember). Shown below is the Frame Rail Stiffener Kit (P/N 02980118) . This mounts under the Tractor and will be added to the Frame Rails during Assembly. Item 5 Rail Support Gussets are shipped loose and are not part of the Assembly, they will be bolted to the tractor and when instructed you will need to weld the Frame Rail Support to them **(See Figure 2).**

Tack weld the crossmember support weldments to the frame rails after they have been aligned


Frame Crossmember
Mount Tube Angle Welded to Frame Rail
Frame Rail, RH Shown
1
3,4,5
2
Frame rail crossmember tabs will be welded to frame rails from later

Item	Part No.	Qty	Description
1	02980344	1	Frame Rail (RH Shown)
	02980343	1	Frame Rail (LH Not Shown)
2	02970086	1	Crossmember Tube
3	02970115	2	Rail Stiffener Weldment
4	02980513	4	Bolt, 1" X 4-1/4" gr. 8
5	5JRC16180	4	Locknut, 1" NC (Toplock)

Figure 2

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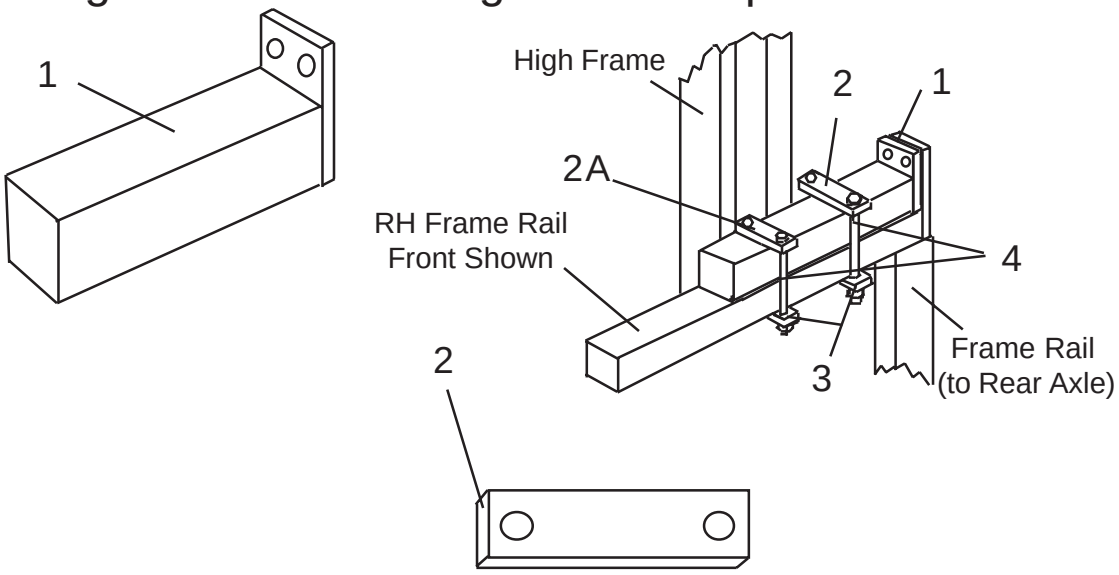
Frame Rail Assembly: (continued)

High Frame Mounting Tube Components. **(See Figure 3 & 4)** These Components are to be laid out and will be tack welded to frame Rails and High frame during Pre-Assembly Process. Locate and ID these Parts for later installation. Remember DO NOT Weld any components until instructed to do so.

High Frame Mounting Tube Components



Item	Part No.	Qty	Description
1	02014500	2	Mounting Tube
	02918600	4	Bolt, 3/4" X 2" Long (Not Shown)
	00037200	4	Locknut, 3/4" Toplock (Not Shown
2	02966639	8	Bar Mounting Strap
2A	----------	a/r	Bar Mounting Strap (cut item 2)
3	00037200	8	Locknut 3/4", Toplock
4	02957039	8	Bolt, 3/4" X 10-1/2" Long

Figure 3

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High Frame Installation

Frame Rail Assembly: (continued)

High Frame Mounting Tube Components. **(See Figure 4)** These Components are Sitting in approx. position of assembly to illustrate where they are to be when tack welding them. Space is left between the frame rail mount plate and the mounting tube for Illustration only, they will be bolted together when assembled and before tack welding mounting tube to frame rail.
Also See Figure 3 on previous Page.

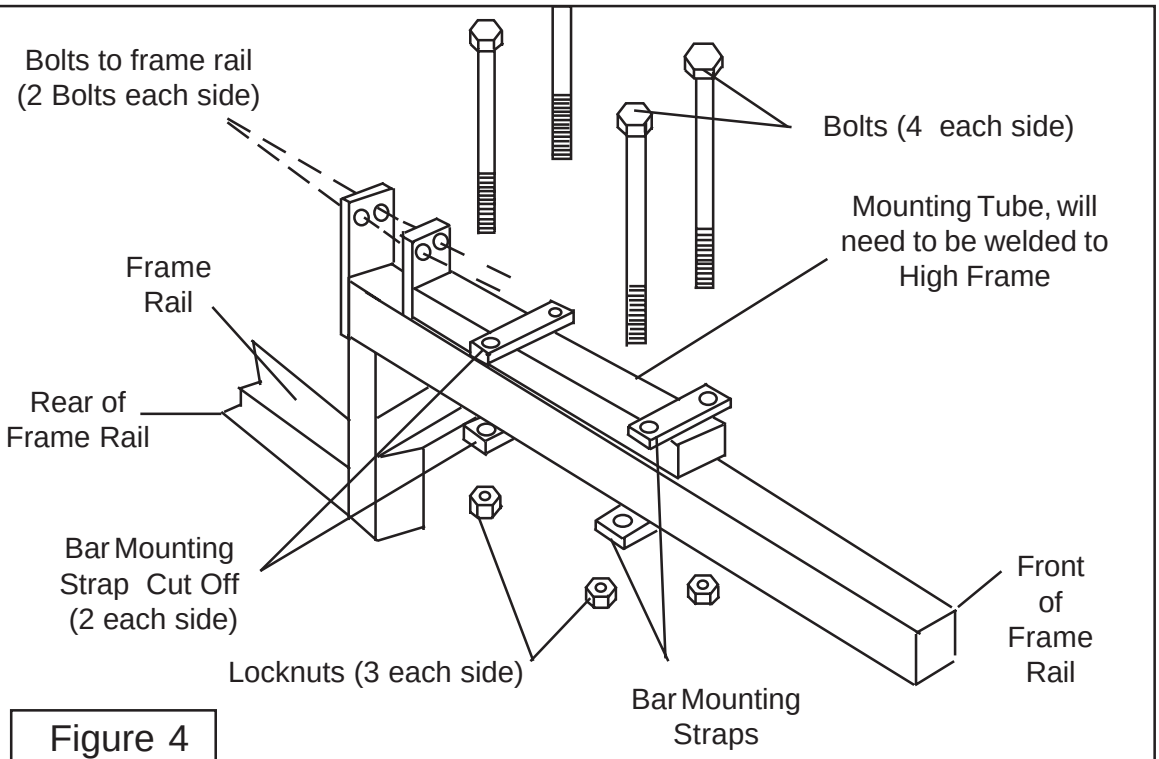
Bolts to frame rail
(2 Bolts each side)
Bolts (4 each side)
Mounting Tube, will need to be welded to High Frame
Frame Rail
Rear of Frame Rail
Bar Mounting Strap Cut Off (2 each side)
Front of Frame Rail
Locknuts (3 each side)
Bar Mounting Straps

Figure 4

High Frame and King Post Frame Sub-Assembly. **(See Figure 5)** The High frame will come with the King Post Sub-Assembly built to it. The 2 Wheel drive and 4 Wheel Drive High frames are different and will not interchange between 2 WD and 4 WD Tractors, the 4 Wheel drive High Frame has the King Post Mounting welded higher up on frame than 2 WD Frame. DO NOT try to use a 2 Wheel drive Frame on 4 Wheel Drive Tractor or vice versa, it will not work.

Hydraulic Tank, The Hydraulic Tank is mounted on the LH side of High Frame. It will be mounted by the Mounting tubes that are welded to the High Frame and the Tubes that are welded on to the Hydraulic Tank. There will be long bolts with Allen Heads that will be inserted down through these tubes.

Tank Mounted Counter Weight. There is a tank mounted counter weight that will be mounted on to the Hydraulic Tank using Allen Head Bolts. There will be a cover that bolts on over counter weight.

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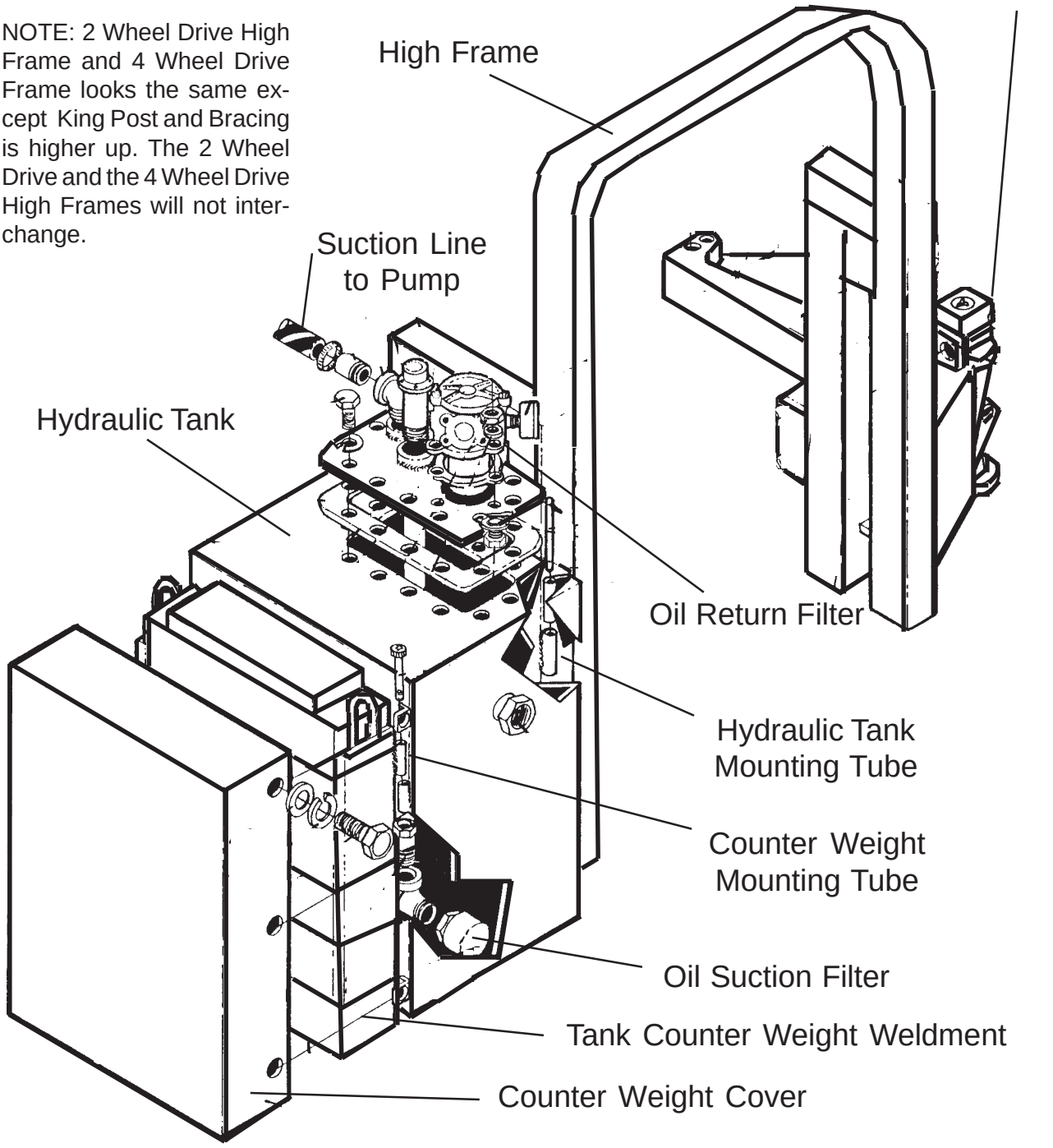
High Frame Installation

High Frame & King Post Asy

NOTE: 2 Wheel Drive High Frame and 4 Wheel Drive Frame looks the same except King Post and Bracing is higher up. The 2 Wheel Drive and the 4 Wheel Drive High Frames will not interchange.



NOTE: Shown above is a general view of the High Frame, Counter Weight and Cover and may not look the same as the one for your application. The Assembly procedures will be the same even if the shape of Tank and Weight are different than shown.

Figure 5

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Frame Rail Installation

Installing Frame Rails:

1. Lay Out Components in Display. It is helpful to lay out the component in as neat a display as possible. Lay out the Bolts according to size and length. Lay out the Nuts and washer by size. This will allow you to see how many of each part as you use them and help to identify any missing parts. (See figure 6) **Keep in mind all through assembly that there are components on the tractor that have to be accessible for maintenance and the hood must be able to raise high enough to clear them. The Tractors engine air cleaner is the most common over looked clearance item.**

Figure 6

2. Front Frame Rail Supports. These Frame Rail Support Mounts (P/N 02980885 LH & 02980776 RH are NOT the same). It is easier to mount the Pump Drive Shaft before these Frame Rail Supports (See Figure 7) . There are 6 bolts that go through Frame Support weldments and into the tractor bolster, install the 6 retaining (New Bolts) that hold the Rail Support Weldment on but do not tighten them until all 6 bolts are installed. Tight the mounting bolts for Frame Rail supports and pump guard (if used) now . Install the LH and RH which are different weldment (See Figure 7).

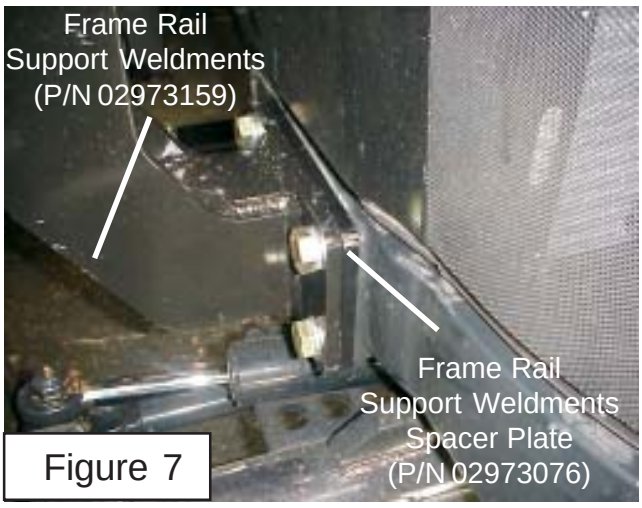

Figure 7

3. Front Rail Mounting Pad. Note: The illustrations may or may not be of the model tractor you are working with, the illustration are to depict the procedure not model tractor as the installation of parts will be same. There are two of these Rail Mounting Pads P/N 02725900; one is used on the left and one on the right. These Pads are the same so it will not matter which goes on which side. **(See Figure 8).** Set the Pad down over the Front rail Support aligning the four holes in pad with the four holes in frame rail support. . Insert the four Bolts into the mount pad and plates on front support mount **(See Figure 9).** Install a nut on one or two of the Bolts but do not tighten them, the Bolts are only installed to prevent the Pad from moving side to side.

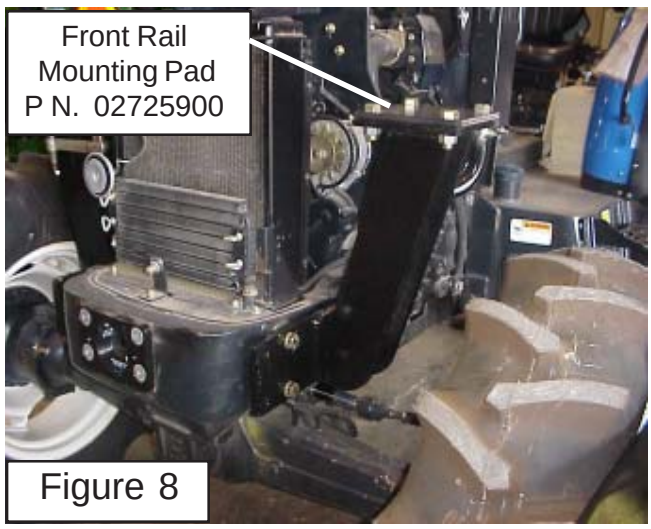

Figure 8

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Frame Rail Installation

Installing Frame Rails: (continued)

4. Locate RH and LH Frame Rail. There are two different frame rails, RH and LH. Start with either one you want, for illustration we started with the RH **(See Figure 10).** Remember the LH is the one with the Oil tank Mount Tubes welded onto it, **(See Figure 1)**

5. Prepare Tractor Axle Housing. First look up under Tractor at the rear axle where the frame Rails mount , if you see holes in the Axle castings on both LH and RH side that have plastic plugs in them. The Plastic Plugs will have to be removed now as they cannot be removed once the Frame Rails are in place **(See Figure 12).**

6. Installing Frame Rails. Using a Hoist, lift the frame rail and slide it into place under the right rear Axle. Hold the frame rails as shown to prevent it from moving **(See Figure 11).** Using a Floor Jack **(See Figure 13)** support the Frame Rail up under the Axle. Note: the RH and LH Frame rail will install the same so you can work either side first. Extreme caution must be taken to prevent the rails from hitting the tractor during this process, it is best to work as a two man team. NOTE: Tractor Model is for illustration only and may not be the model that you are mounting mower to. (Below Tire removed for illustration only, not reguired)

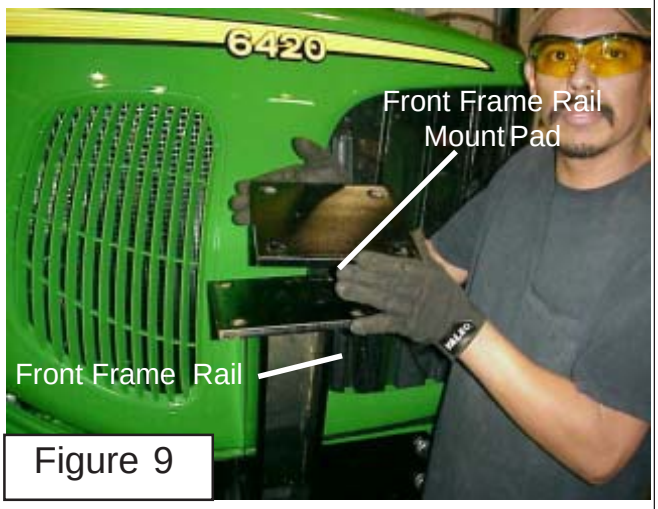

Figure 9

Figure 10

Figure 11

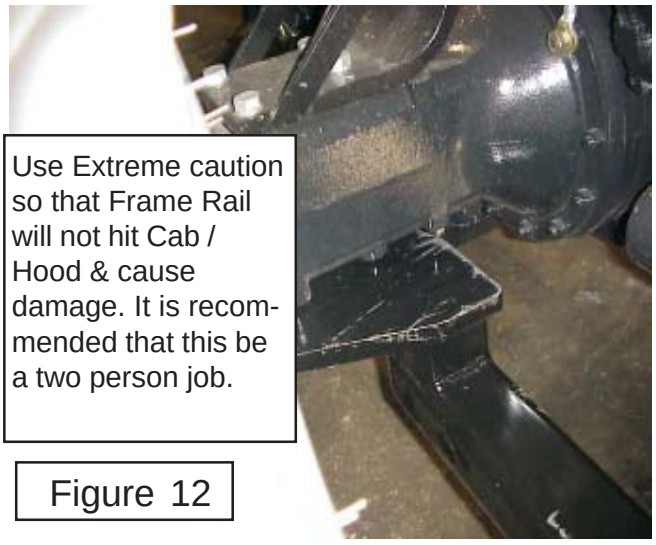
Use Extreme caution so that Frame Rail will not hit Cab / Hood & cause damage. It is recommended that this be a two person job.

Figure 12

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Frame Rail Installation

Installing Frame Rails: (continued)

7. Installing Frame Rails. Using a Hoist, lift the frame rail and slide it into place under the right rear Axle. Hold the frame rails as shown to prevent it from moving **(See Figure 12).** Using a Floor Jack **(See Figure 13)** support the Frame Rail up under the Axle. Note: the RH and LH Frame rail will install the same so you can work either side first. Note: The frame rails will have to be removed after the aligning and the tack welding is done.

8. Install RH Frame Rail to Tractor & Rear Axle. The Frame Rails Mount to the rear Axle of Tractor. The RH Side will use bolts that will replace the bolts through the ROPS as well as the frame rail. The LH Side will bolt using the bolts through the ROPS as well as the Frame Rail. The Axle Mounted Boom Rest will also mount on the RH Side using the supplied long bolts and the axle strap (See Figure 13 & 14). CAUTION! DO NOT do any welding to the frame at this time.

9. Install the LH Frame Rail. The other frame rail will install the same as the first did. DO NOT do any welding at this time.

10. Frame Crossmember. Locate the Frame Rail Crossmember **(See Figure 2 & 15).** This will bolt between the LH and RH Frame rail under tractor using four bolts and nuts. The mounting tabs for the cross member are to be welded to the frame rails (See Figure 2). Slide the crossmember in between the tabs and insert the bolts, It is best to support this assembly with a floor jack until you have tack welded the crossmember support weldments to the frame rail. Start the bolts but do not tighten them at this time as the supports need to be tack welded to the frame rails. Shown in figure 15 the crossmember is sitting in a piece of channel iron witch is resting on a floor jack. This supports and helps to align the cross member.

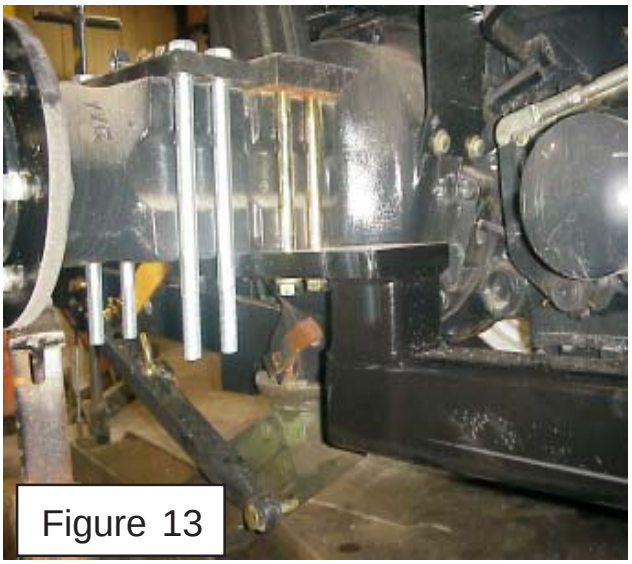

Figure 13

Figure 14

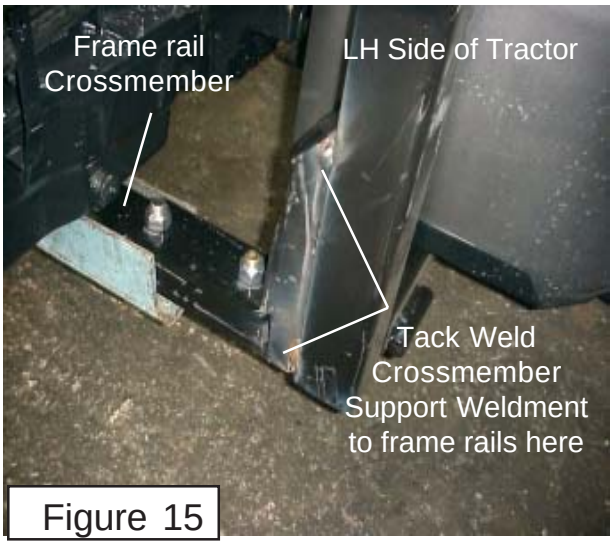

Figure 15

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Frame Rail Installation

Installing Frame Rails: (continued)

11. Align Frame Rails on Front Mount Pads. Locate the Front Frame rails on the mount pad so that there is room for the Bolt heads to clear the Frame Rail. Here we have wedged a Screwdriver with a 1/4" shank between the Bolt Head and the Frame Rail. Anything about that size can be used to keep enough distance so bolt can be removed and reinstalled without interference. Use a C-Clamp to hold it in place when aligned. Do this on Both the RH and LH side. **(See Figure. 20) Do Not weld frame rail to pads at this time, high frame needs to be set down over frame rails before they are welded.**

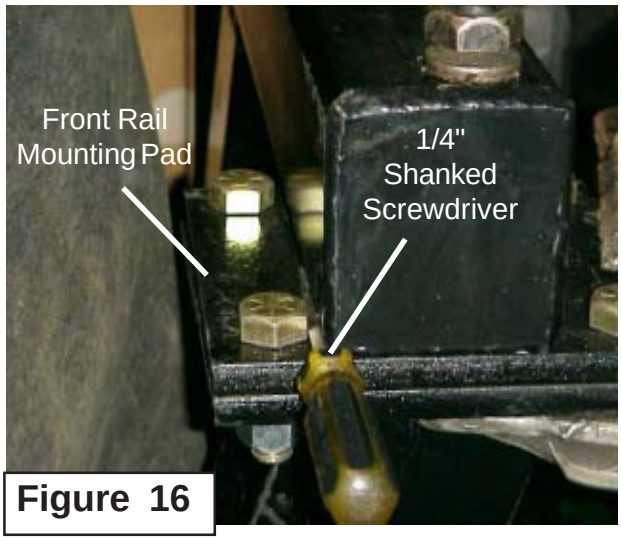

Figure 16

Pre-Installing High Frame:

1. High Frame Shipping Pallet. The High frame is shipped bolted to a Pallet, Do not unbolt this from the Pallet until the Hoist has been connected to the High frame. The Hoist must be supporting the weight of the High Frame before any of the bolts holding High frame to pallet are removed. There two lifting lugs welded to the high frame that are used to lift it. (See Figure 17)

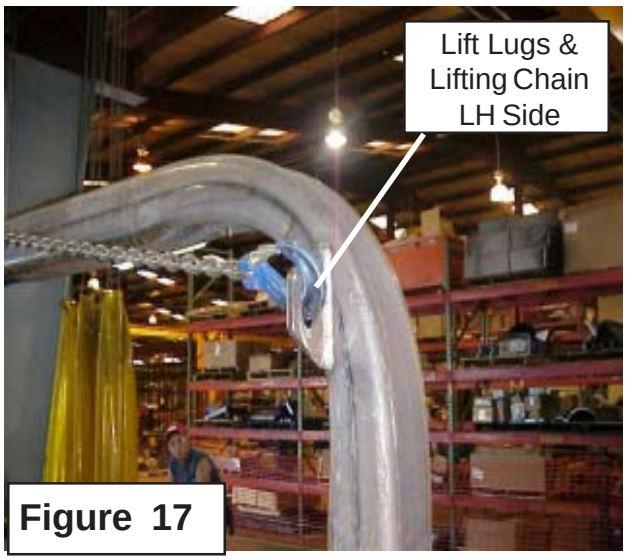

Figure 17

2. Prepare High Frame for Lifting. There are two lift lugs welded to the top of the High frame for lifting it **(See Figure 17).** These Lugs will lift the bare High Frame straight if the chains are shortened on RH side to compensate for the weight difference between the two sides. Balance the load **(See Figure 18)** and lift High frame level. High frame must be level when lifted over Frame rails.

3. Level High Frame. Use two magnetic Levels as shown. These magnets should be installed before lifting High frame.

The First Magnetic level is put on the Top of the High Frame on the Bottom Side **(See Figure 20).** This level will allow you to level the frame from left to right without having to climb up later to use a Level that you hold.

The Second Magnetic Level is put on the Kin Post Pivot toward the front of the tractor so that it will level the High Frame from front to rear as shown **(See Figure 19).**

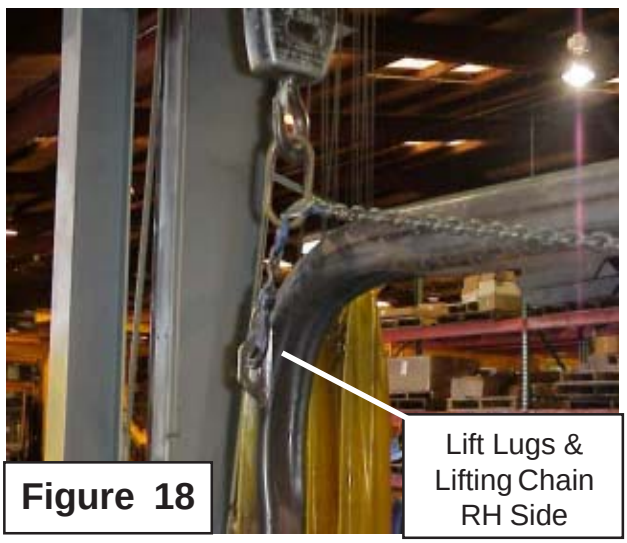

Figure 18

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Frame Rail Installation

Pre-Installing High Frame:

4. Lower High frame down over Tractor. This is a two man job in order to keep control of High Frame on both sides of tractor **(See Figure 22)**. Lower the High Frame down over the Frame rails **(See Figure 23)** slowly, as it must straddle the Frame Rails **(See Figure 23).** Lower High Frame until the top of the High Frame should be no higher than the cab of The Tractor maximum. And high enough to have sufficient hood clearance **(See Figure 24) .** Another mark to look at is the Horizontal tube of the High frame should be parallel up and down with the Frame Rail Tube as shown on next page **(See Figure 29).**

5. Check High Frame for Level. Check the two Magnetic Levels that you installed earlier. The Top Level should be from side to side of the Tractor **(See Figure 19 & 20).** The level on the King Post Pivot Pin should be level making High Frame Level straight up and Down**.** Leave the Magnets Levels on the High frame, as you will have to check them again later. DO NOT do any welding at this time.

6. Secure High Frame to Frame Rails. Secure the High Frame to the Frame rails with C-Clamps on both sides **(See Figure 25).** Do not weld anything at this time.

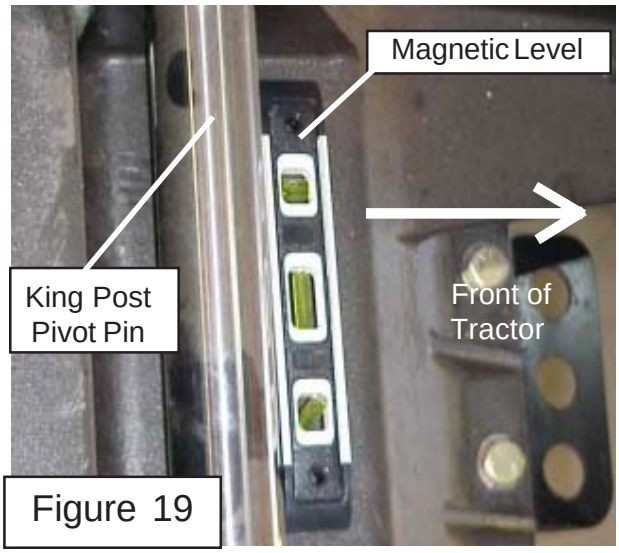

Figure 19

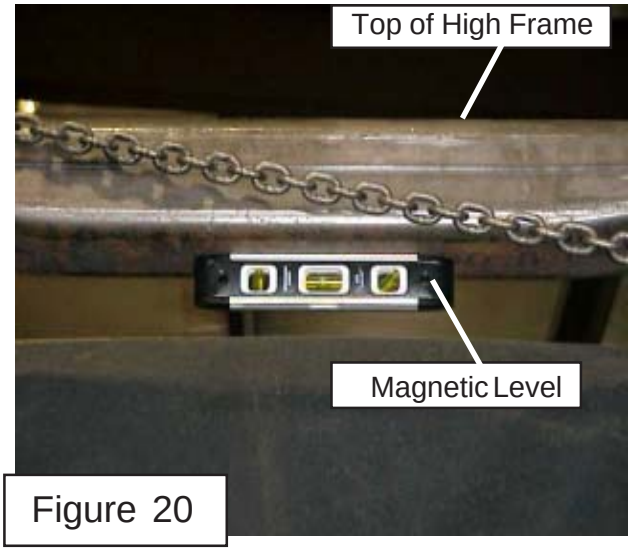

Figure 20

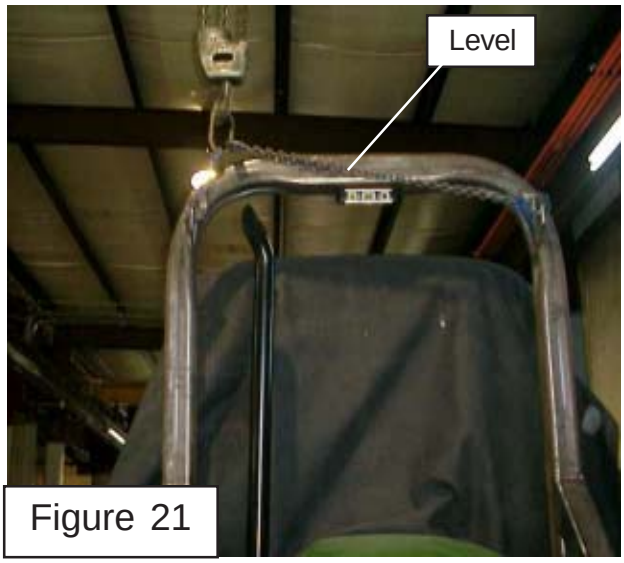

Figure 21

Figure 22

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Frame Rail Installation

Pre-Installing High Frame: (continued)

7. Align High frame to Frame Rails. The High Frame Vertical Tube should be as directly above the Vertical tube of the frame rails as possible **(See Figure 26)**. The illustrations in figure 26 shows the High Frame not directly over the Frame Rail Vertical Tube, try to get it as directly over it as you can.

The height of the High frame should be no higher than the Cab of the Tractor. The horizontal tube of the High Frame should be just above the height of the horizontal Tube of the Frame Rail **(See Figure 25 & 26)**

Clamp the High frame to the Frame Rail when aligned and leveled. **(See Figure 25)**. DO NOT remove the hoist, Leave the Hoist connected to the High frame for safety and additional support.

8. Recheck all alignment points. Recheck the alignment of the Frame Rails and High Frame for level mounting position. These components must be aligned now before any Tack welding begins. This is critical to make certain that the high frame is in alignment and level. See Figures 26, 27 & 28 on next page for alignment. **Make certain Hood clears frame when raised and the engine air cleaner can be removed for replacement.**

9. Install Mounting Tubes . Loosely bolt the Front Angle Mount end of Mounting Tube **(See Figure 26, 27, 28).** Slide 1 Mounting Tube in on top of the Frame Rail on each side, the end that has the Angle Mount bolted to it goes to the Back toward the Tractor Cab. The mounting Tube should be slid back until the end of mounting tube is back to where it can be bolted to the lug welded to the frame rail . **(See Figure 27)**. Do Not Tack Weld any components at this time. Note: in figure 27 note the location of High Frame Tube Height as compared to Mounting Tube Height, this is the way that it will appear as looking over the Hood of the Tractor toward LH Side.

Figure 23

Figure 24

Frame Rail Tube & Frame Rail must be align parallel with each other up and down here

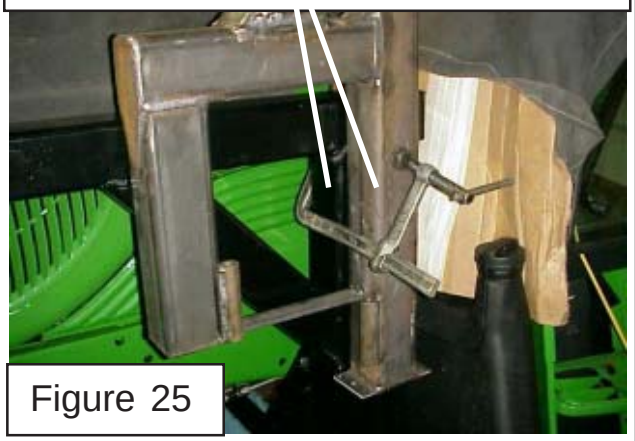
Figure 25

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Pre-Installing High Frame: (continued)

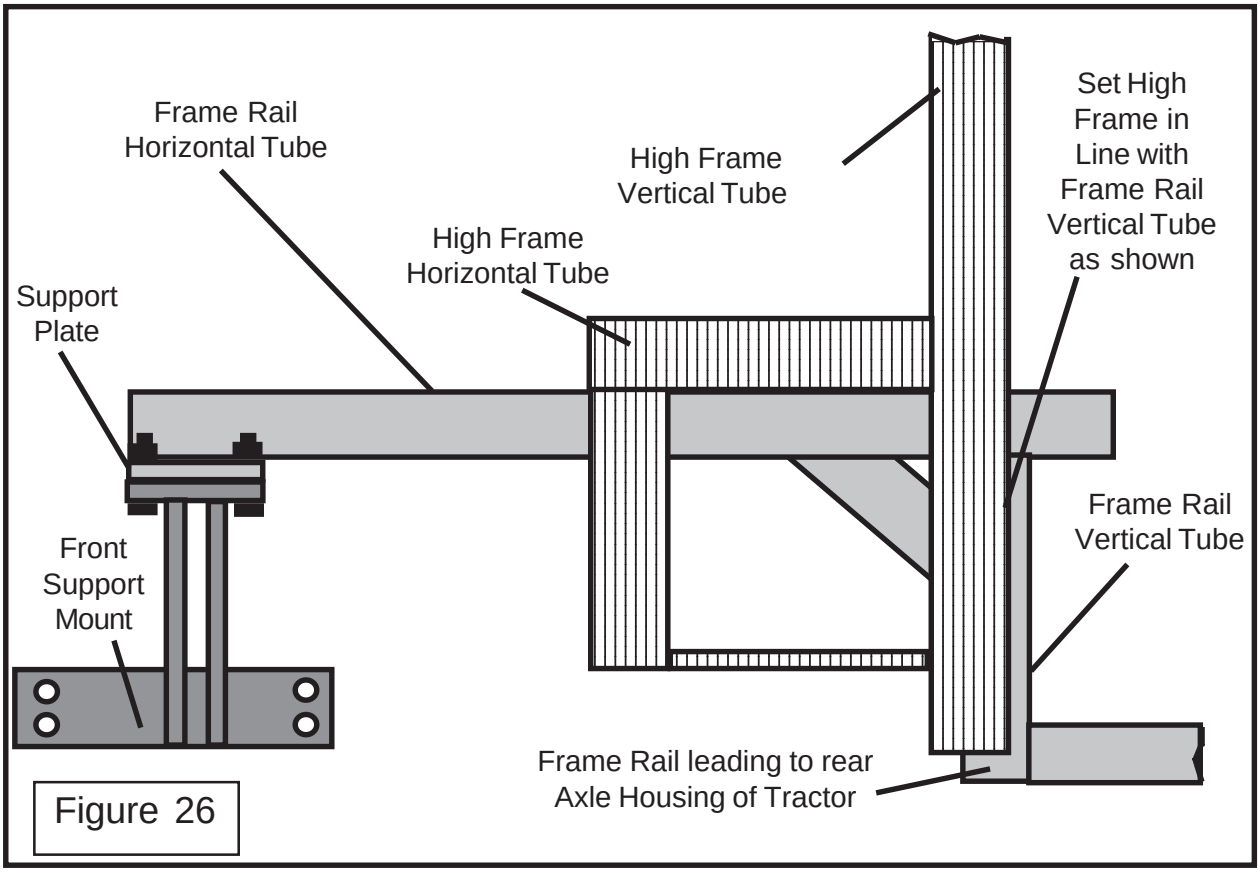

Figure 26

10. Install Mounting Tube. Loosely bolt the Angle Mount of mounting tube to the mount welded on to frame rail. **(See Figure 29).** Snug these bolts till the gap is gone, this will hold the mounting tubes in place, note these will need to be unbolted when high frame is removed for welding so only snug will be sufficient for now.

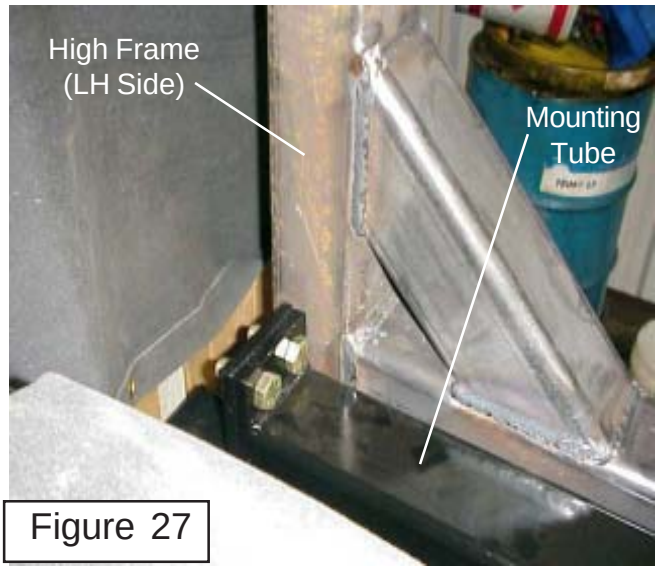

Figure 27

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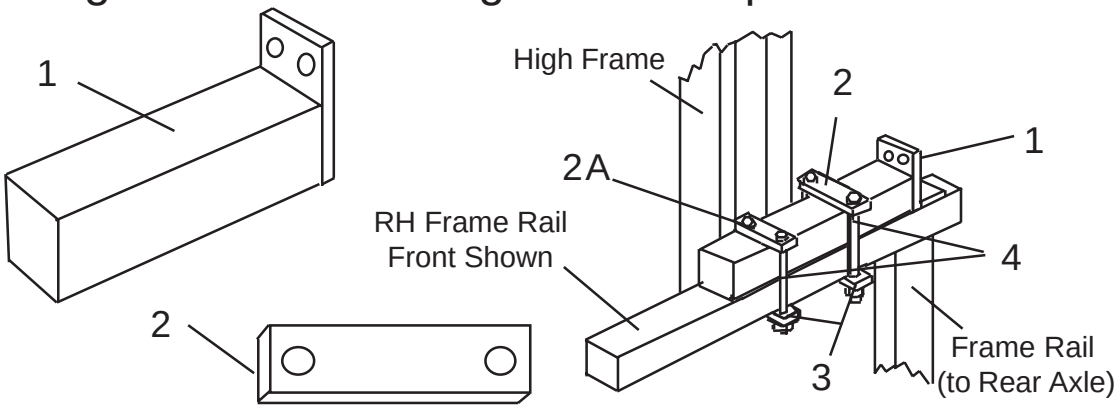
Pre-Install Mounting Tubes for High Frame: (continued)

High Frame Mounting Tube Components



Item	Part No.	Qty	Description
1	02014500	2	Mounting Tube
	02918600	4	Bolt, 3/4" X 2" Long (Not Shown)
	00037200	4	Locknut, 3/4" Toplock (Not Shown
2	02966639	8	Bar Mounting Strap
3	00037200	8	Locknut 3/4", Toplock
4	02957039	8	Bolt, 3/4" X 10-1/2" Long

Figure 28

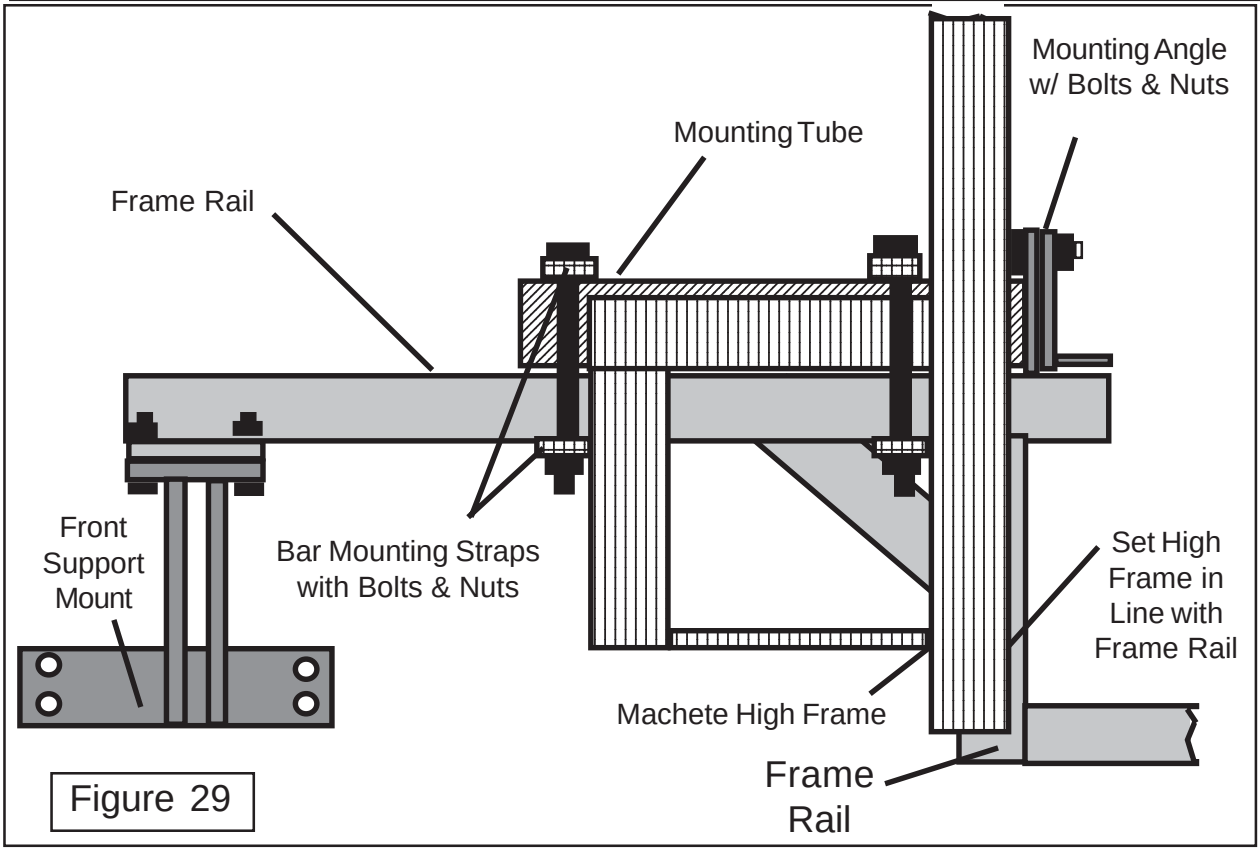


Figure 29

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Frame Rail Installation

Tack Welding Frame Rails:

1. Tack Weld Frame Rails to Front Mounting Pads. Check to make sure that the Frame rail is still aligned on front rail Mounting Pad, Frame Rail should not interfere with the Mounting Pad bolt heads Check the LH and RH Frame rail **(See Figure 30)**. If alignment is correct Tack Weld the Frame Rail Mounting Pads. **(See Figure 31).** When tack Welding use 4 good tack welds per Frame rail, 2 on each side of Tube. **(See Figure 37).** The C- Clamp on The Frame Rail Tube at the mounting pad can be left on till later.

3. Go back and check to make sure you have tack welded the Frame Rail to Mounting Plate **(See Figures 30 through 32). Check to make sure that the frame rails are aligned so the high frame is centered and the frame rails are wide enough that here is no gap between frame rails and high frame. When this is set correctly you can weld the frame rails to the front mounting plate. The decision to remove the front rails later to paint them where you welded the mount plates to them or paint them with them on the tractor is up to you. (See Figure 33). The mount plates should be welded to the front mount plate in three places, down the sides and across the front.**

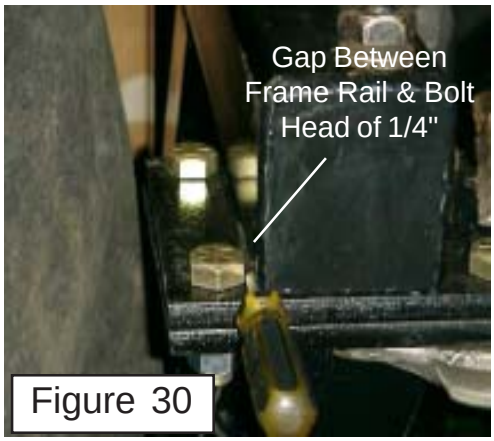

Figure 30

Tack Welding the Mounting Tubes to the High Frame:

1. Tack Weld Mounting Tubes to High Frame. Check that alignment and height of the high frame to make certain it is correct. Make good Tack welds for the mounting tubes to the high frame in three places on top and three places on the bottom. This will need to done on the left hand side and the right hand side. (See Figure 34). Note in figure 34 the tractor is covered to protect it from the sparks of the welder, this is important to always protect the tractor from these sparks as they will damage paint and glass.

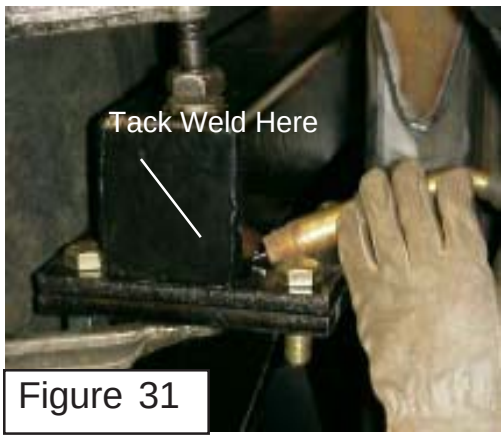

Figure 31

Welding.:

1. Remove and Weld Mounting Tube to High Frame. Lift the High frame back up off of frameLift the High frame back up off of frame rails **(See Figure 35).** Finish Weld the Mount Tubes. The Mounting Tubes are to be welded completely all the way around. This is why it is best (continued next page)

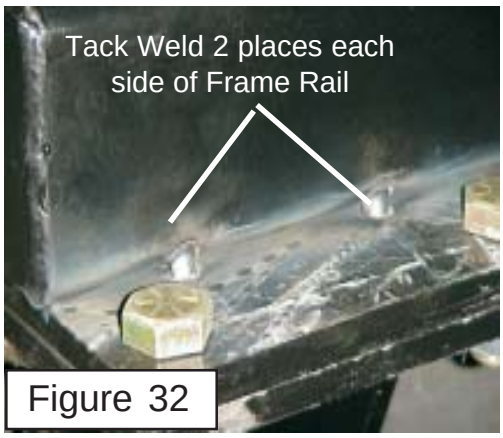

Figure 32

Figure 33

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High Frame Installation

1. <u>(continued from previous page).</u> to take High frame off, so that the Weld can done as strong as possible and in places that you can't get to with High frame mounted on Frame rails. This is also recommended so Assemblies can be turned while welding to get maximum quality welds. In figure 36 the mounting tube is welded to the high frame with a continuous weld all the way across the top.

2. <u>Welding Mounting Tubes all the way around.</u> The Mounting Tubes must be welded to the High Frame all the way around on the top and the bottom. These should be good flat welds that have strength. This welding should only be done by an experienced welder, Turn High frame as required to weld all the way around with strong Welds.**(See Figure 36, 37, 38 & 39).** These must be strong welds.

3. <u>Mounting The Valve Notice.</u> The valve will mount on the frame if using a joystick or on the fender mounted bracket if not using the joystick. This must be decided before attempting to mount the valve which will be shown later.

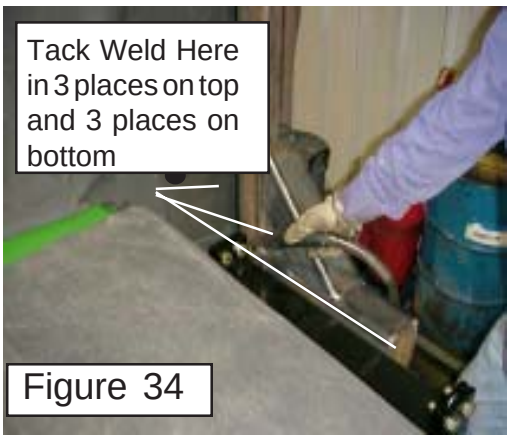

Figure 34

Figure 35

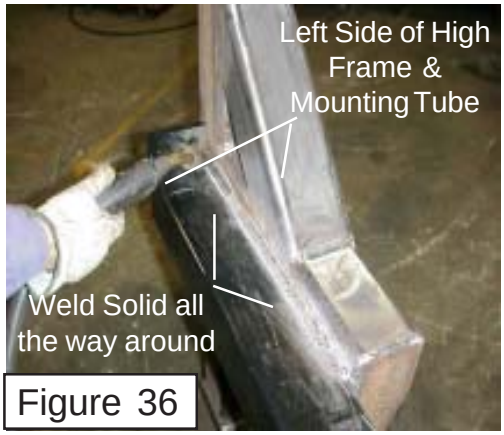

Figure 36

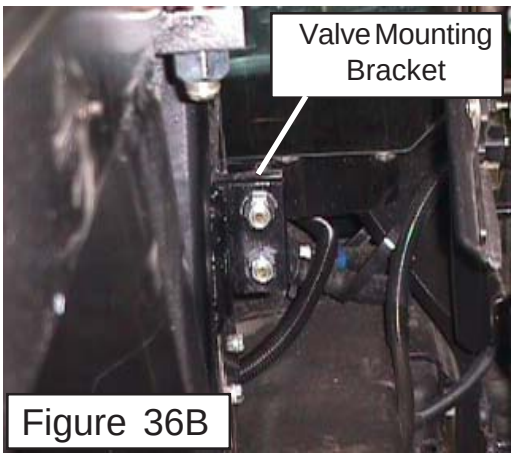

Figure 36B

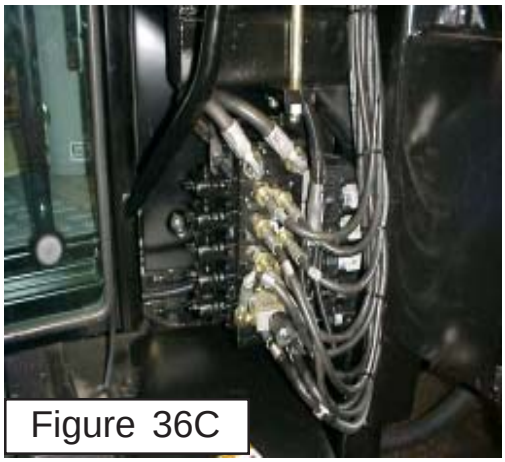
Figure 36C

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High Frame & Boom Rest Installation

Remove High Frame for Final Welding.: (continued)

3. Check all Welds around High Frame to Mount Tubes. Make certain that all the welding has been done to connect mounting tubes to high frame. Now would be the time to repaint around weld on the high frame and mounting tubes. Clean all welded areas and touch up paint. Note in figure 37 high frame is not welded, this is left unpainted for illustration only, the high frame you received should already be painted. (See Figures 36, 37, 38 & 39) DO NOT reinstall High Frame until Boom Rest and Axle Straps have been mounted.

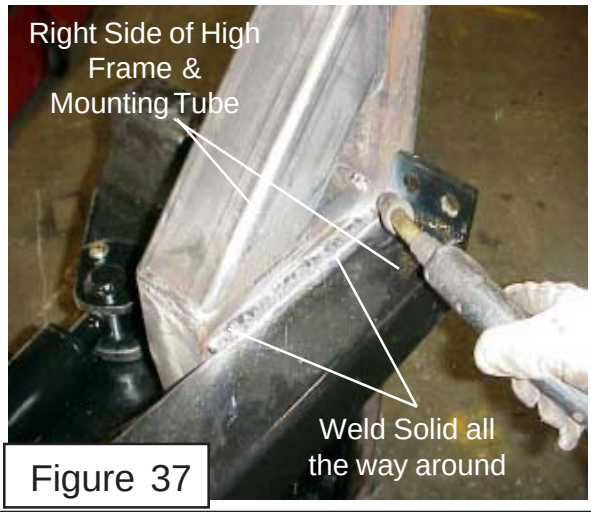

Figure 37

Re-Install High Frame:

1. Re-Install High Frame on Tractor. The High frame should be welded completly and the paint touched up around the welds. Lift the high frame with a overhead hoist and lower it down over the frame rails until the mounting tubes are resting on the frame rails (See Figure 39A). Install the clamping strap (Except for the ones that were cut and welded to mount tube and frame rails) and bolts. Tighten the mounting strap bolts on bothe RH and LH side. DO NOT remove the overhead hoist until high frame is securly bolted down (See Figure 39A & 40A)

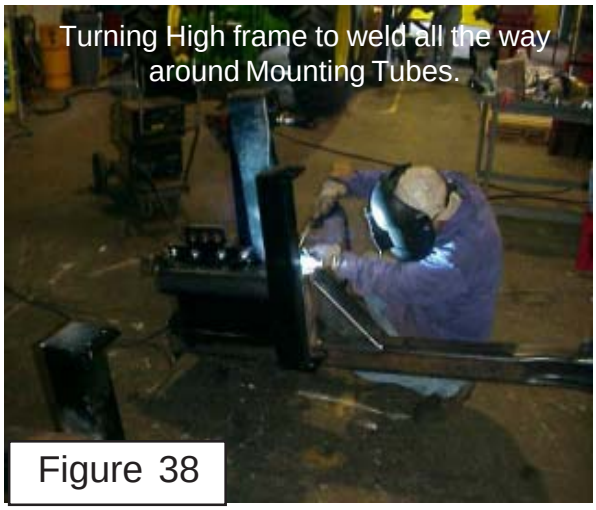

Figure 38

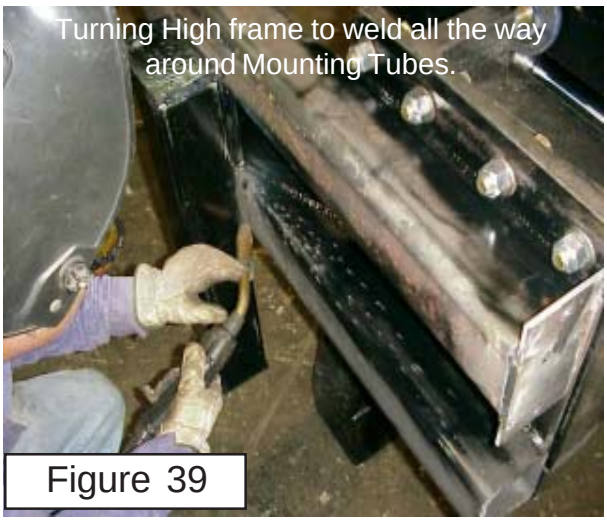

Figure 39

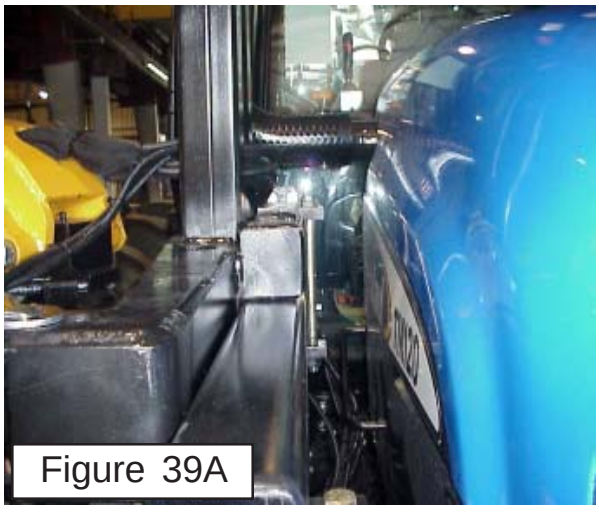
Figure 39A

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High Frame & Boom Rest Installation

Install Boom Rest to Rear Axle:

1. Install Boom Rest Stand to Rear RH Axle of Tractor. The Boom Rest stand will install to the RH Rear Axle of Tractor. It will use some of the same bolts as the Rear Frame Rail so make certain that you have the frame rails supported with a good floor jack before removing any bolts from rear axle. Also note that the rear stabilizers for the three point lift is also attached here, they will have to be removed and reattached (See Figure 40 & 41) .

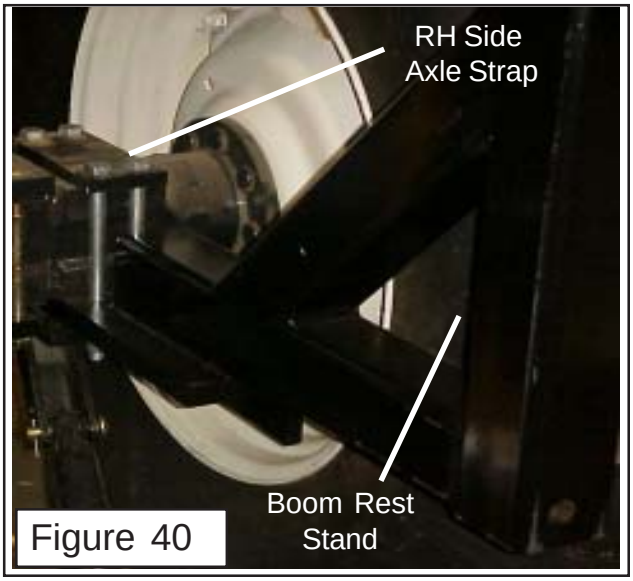

Figure 40

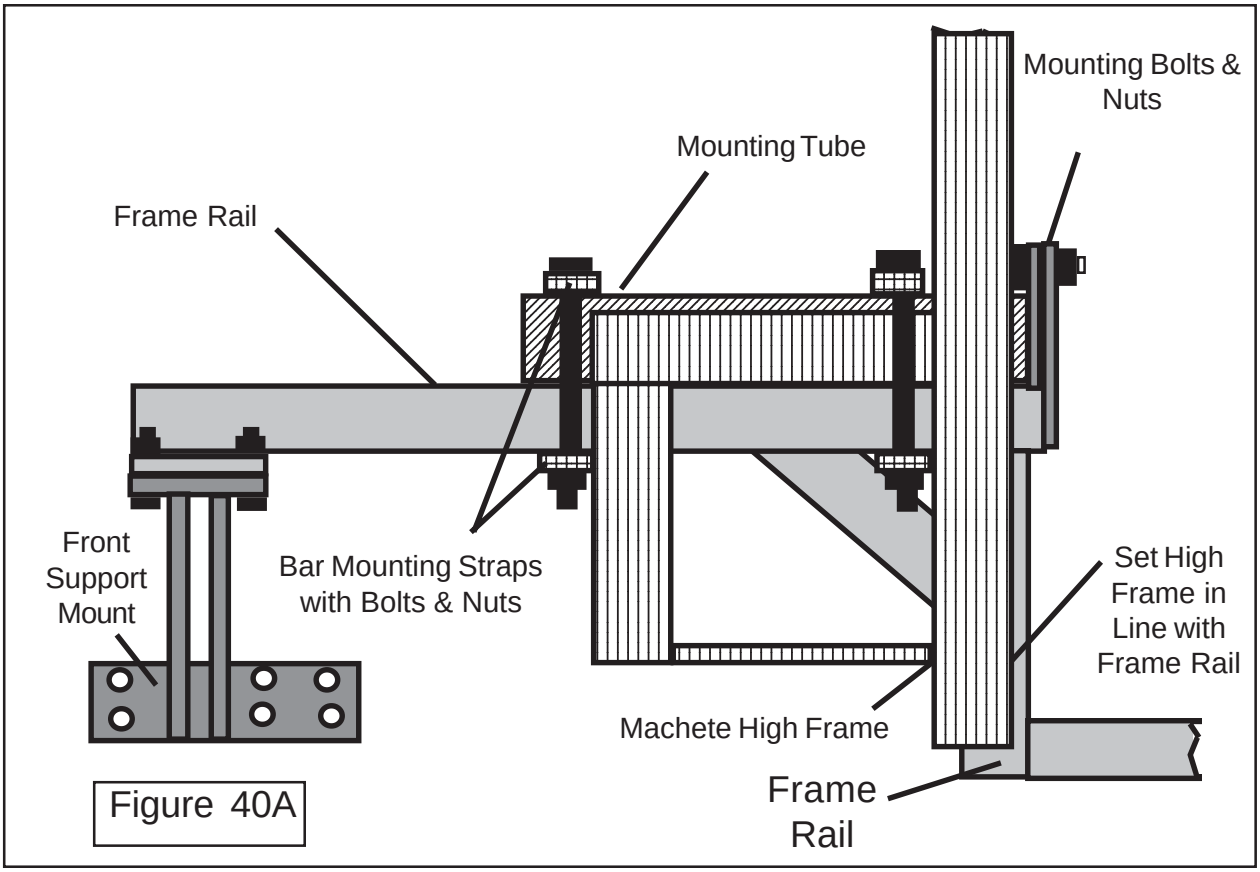

Figure 40A

Shown above is a schematic of the frame rails, front frame support and the high frame when completely mounted. This is a generic drawing and may not be exactly the same as the model you have.

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Boom Rest and Axle Strap Installation

Install Axle Strap to LH and RH Rear Axle:

1. Install Axle Strap to Right Rear Axle. Install the Axle Strap on the top of the Right Axle (See Figure 40, 43 & 44). The Bolts will go through the Frame Rail and the Axle Strap as shown. **The Axle Straps must be mounted on top of the axle as it will bolt the boom rest on, leave the axle strap sitting on top of the axle until the boom rest is installed up under the axle. (See Figure 43 & 44).**

Figure 41

Check High Frame Installation:

1. Check the High Frame to the Frame rails. The Frame rails should be mounted permanently now, If they were removed to be painted or left on tractor and painted while mounted. Make certain all the bolts have been installed and tightened

If mounted correctly the high frame should be as Figure 40A. Check and make certain that all bolts have been tightened and are in the proper place.

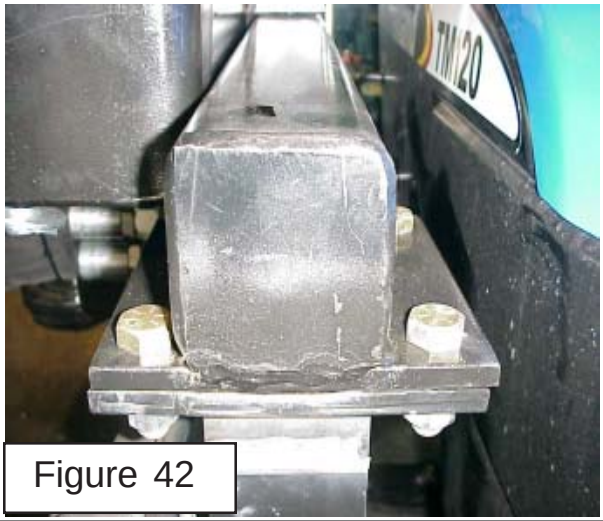

Figure 42

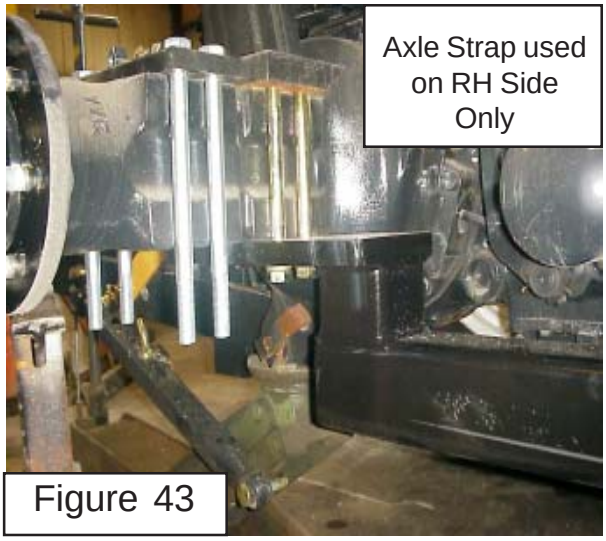

Figure 43

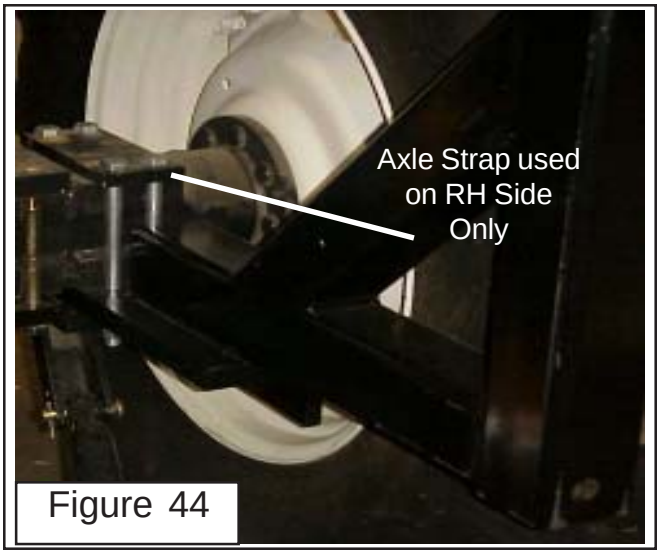

Figure 44

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Hose holder Installation

Install Hose Holders:

1. Install Hose Holders. The Pictures show the hoses already in the holders, but they are not installed as of yet, they are only shown installed as reference and for illustration only.

The hose holders are weld on rings that are designed to have the hoses run through them to hold the hoses in place.

These hose holders are welded to the frame as shown in Figure 44, 45, 46 & 47.

Figure 44 is on the right hand side of the pump protector and will have the two pressure hoses from the pump through it

Figure 45 is welded on to the crossmember across the bottom under beneath the tractor between the two frame rails. This holds the return hose going back to the tank

Figure 46 shows the hose holder on the RH side of frame rail for the return hose going up to the tank. (the return hose at tank will be the large hose that connects to the filter at the tank.

Figure 47 shows the hose holder for the suction hose going to from the tank to the pump on the left hand side of tractor.

DO NOT Attempt to weld these hose holders with the hoses in them, the hoses are only shown installed as a reference.

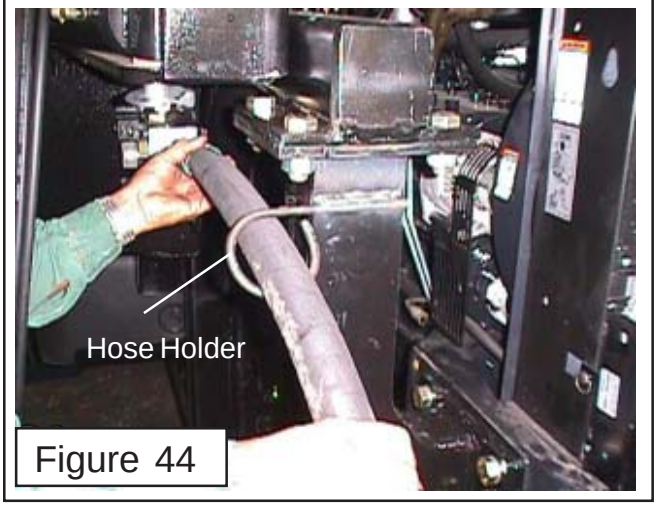

Figure 44

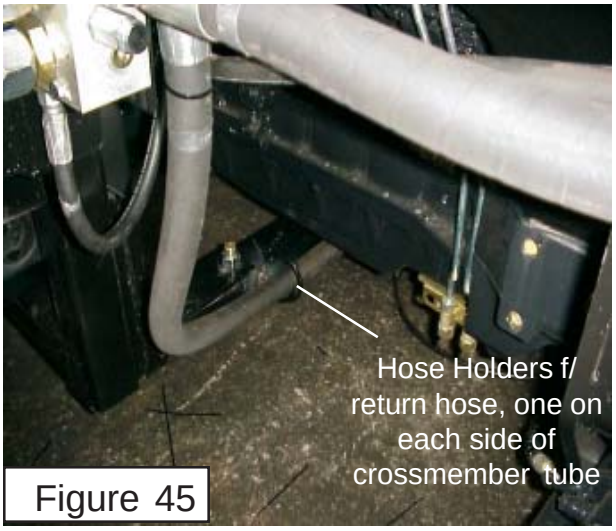

Figure 45

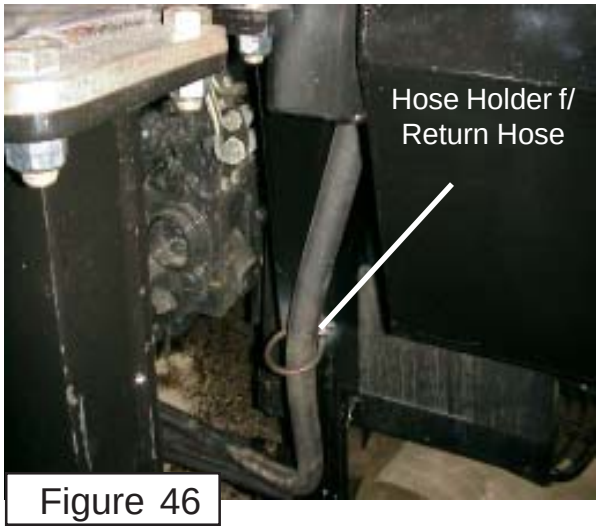

Figure 46

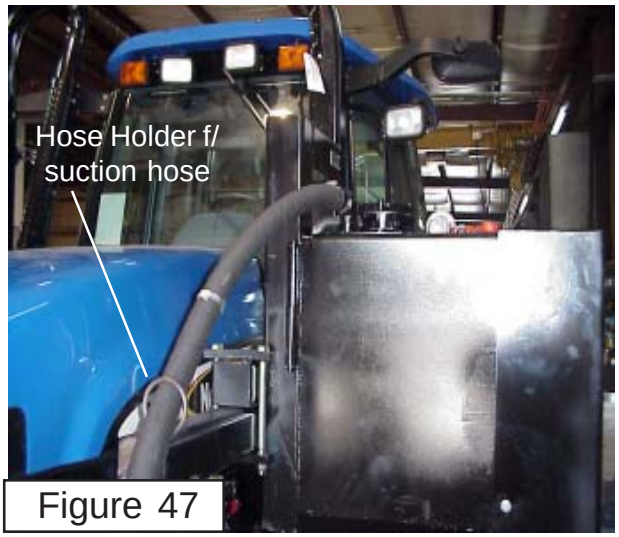

Figure 47

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Boom Rest and Axle Strap Installation

Boom Rest & Axle Strap:

1. Install Boom Rest The Boom Rest Weldment bolts to the RH rear axle using the same bolts that hold the frame rail to rear axle. The bolts for the RH rail will be longer than the ones used on the LH rails. The Axle strap bolts will be 1" longer on the RH side, the under side bolts will be 30 mm longer. You must support the RH Frame rail with a heavy jack stands. It is best to jack the frame rail up and put the jackstands under it from the under side while installing the Boom rest Weldment to the RH Axle. DO NOT remove any bolts until frame rail is supported with heavy enough jackstands under frame rail. (See Figure 49).

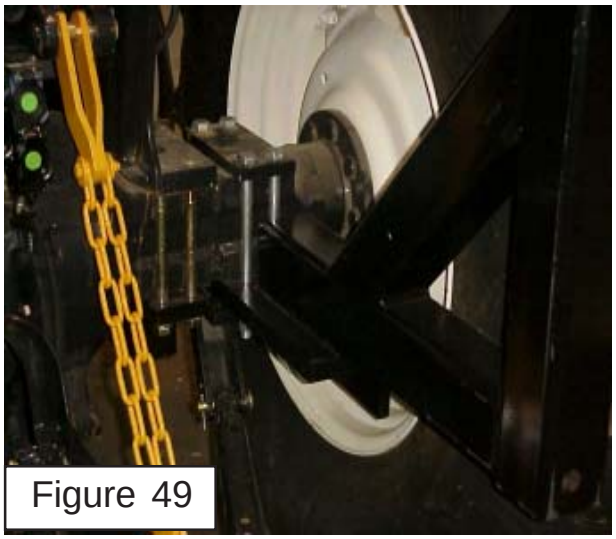

Figure 49

2. Install the Boom rest Plate. The boom rest plate bolts to the boom rest weldment at the top, there are sets of holes to allow the plate to adjusted inward and outward. It is best to mount the plate as far out as possible and readjust after assembly has been completed. (See Figure 50,51 & 52).

Figure 50

3. Before Installing Boom rest Tab to Boom. Later in another section of this manual there will be a section on how to locate the correct position and in stall the boom rest transport lug.

Figure 51

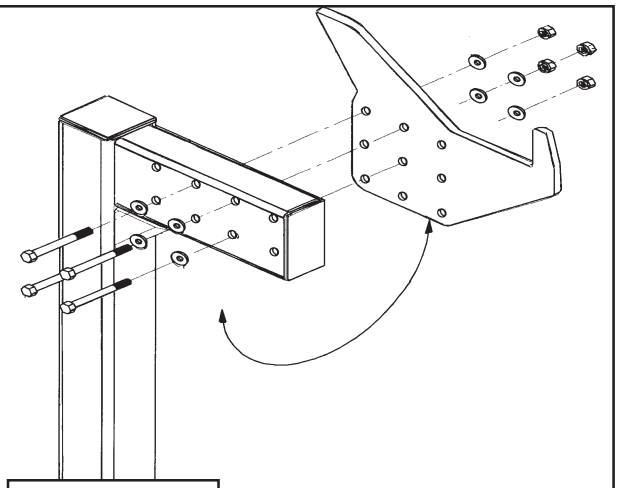

Figure 52

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Section 6

A-Boom

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Hyd. Tank, CWT & Decal Final Installation

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Hyd. Tank - CWT Installation

Hydraulic Tank Installation:

1. Caution. Care must be taken to keep Hydraulic System clean. Do not leave any openings in Tank while installing it, they must remain sealed until ready to install a component and then sealed back up.

2. Hydraulic Tank Installation. The Hydraulic Tank is shipped with the return Filter Assembly, the Suction Filter assembly is already installed in the Tank. The Hydraulic Tank is mounted on the LH side of LH Frame Rail. The Mounting Tubes are welded to the Frame rail and to the Hydraulic Tank **(See Figure 4).** Do not fill Hydraulic Tank with Oil until all the Hoses have been installed and tightened.

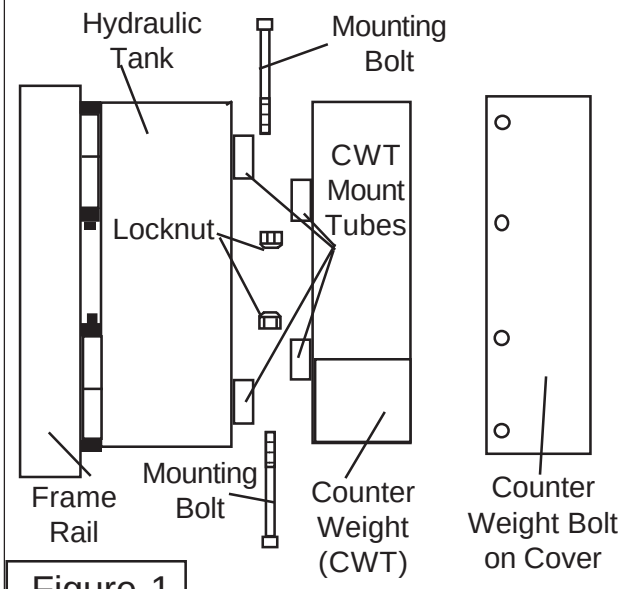

Figure 1

Counter Weight Installation:

1. Counter Weight (CWT) Installation. The Counter weight **(See Figure 1 & 2)** mounts on the LH side and is mounted to the Hydraulic tank which mounts to the LH Frame Rail with a mounting bolts running up through tubes that have been welded to the frame rail and Tank. The Bolts must be installed as shown with the Locknuts to the inside . Installing the Bolts this way will make them easier to tighten up **(See Figure 1 & 2).** Install both bolts as shown **(See Figure 1)**. Snug the Bolts, don't tighten them yet.

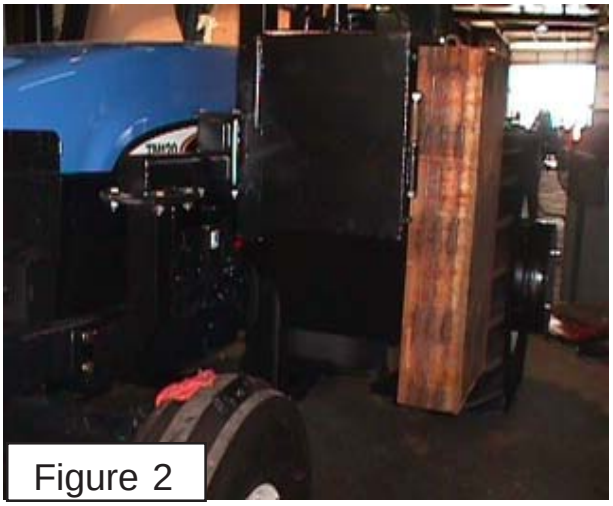
Figure 2

Figure 3

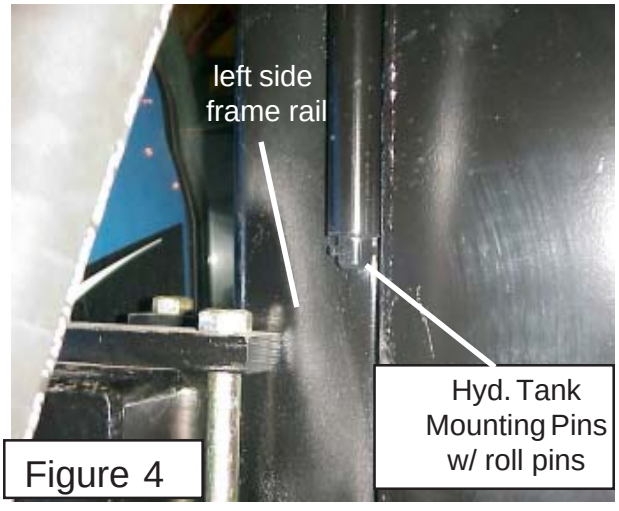

Figure 4

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Hyd. Tank - CWT Installation

2. Counter Weight Cover (CWT). The Counter Weight Cover will bolt to counter weight. **(See Figure 3).**

3. Parts / Operators Manual Cannister. The Parts / Operators Manual Cannister Bolts to the top of the Hydraulic tank (See Figure 5). The Parts/ Operators Manual should be put into cannister prior to delivery of Unit to the operator.

Figure 5

Tank Return Pressure Gauge:

1. Return Pressure Gauge Function. The Tank retturn filter assembly will have a pressure gauge screwed into it to monitor the pressure to the return filter. This is a low pressure gauge that is measured using a red zone and a green zone, green is pressure withen reguirements. Red pressure is to high (See Figure 6).

Figure 6

2. Install Return Filter Pressure Gauge. The return filter pressure gauge screws into the side of the return filter housing. (See Figure 6). The Oil Pressure return gauge has a rubbery tip on top of it, the tip till have to have the tip of it cutoff. Using a utility knife (or suitable knife) cut the tip off now (See Figure 7). This will need to be done before unit is run. Note: Figure 7 is for illustration only and may not be the Tank used on the model you are working on.

Tank Oil Level Sight Gauge:

1. Oil Level Sight Gauge is mounted on the side of the tank facing the rear of the tractor. The Tank may have to have the Paint touched up, or repainted completely. Use caution not to paint over this or damage it. **(See Figure 8)**

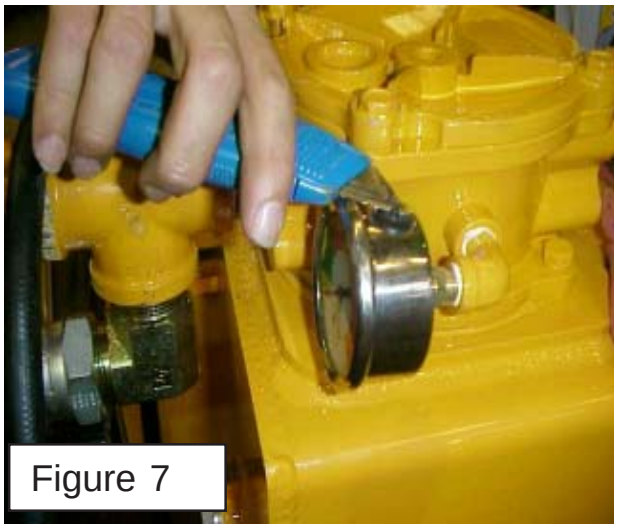
Figure 7

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Decal Installation

Tank Decal Installation:

1. Install Decals on Hydraulic Tank and CWT Cover. There are 10 decals that need to be installed on the Hydraulic Tank and CWT Cover **(See Figure 5, 6, 7). Counter Weight must be Installed before Boom is mounted to King Post.**

2. Decal Part Number. **(See Figure 9, 10 & 11)**

1 = # 02966305, Attention - Universal Tractor Hydraulic Oil
2 = # 02958241, Operators Safety Decal
3 = # 02977417, Operators Manual Inside
4 = # 1458392, Red Reflector
5 = # 1458392, Yellow Reflector (mount in front of CWT Cover)
6 = # 00756059, Warning - Oil Leak
7 = # 02957827, Danger - Multi Hazard (Rotary) or
# 002369, Danger - Multi Hazard (Flail)
8 = # 02965262, Warning - Hose Burst
9 = # 002508, Alamo Industrial Logo - Small (on front upper Tank)
10 = # 00769394, Alamo Industrial Logo - Large

Most Decals should already be installed when Tank Assembly is shipped.

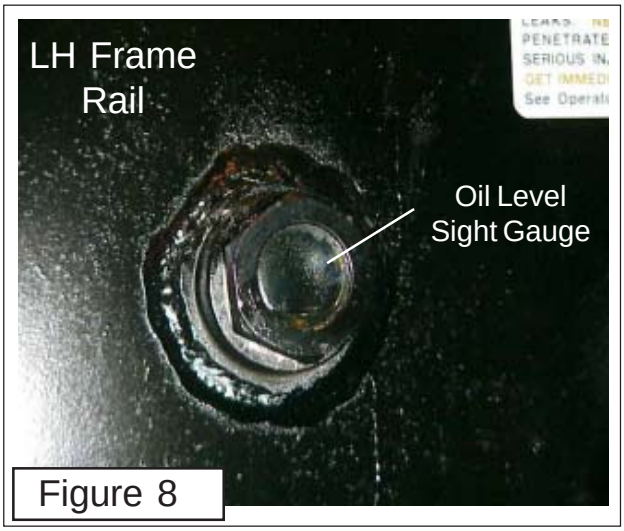

Figure 8

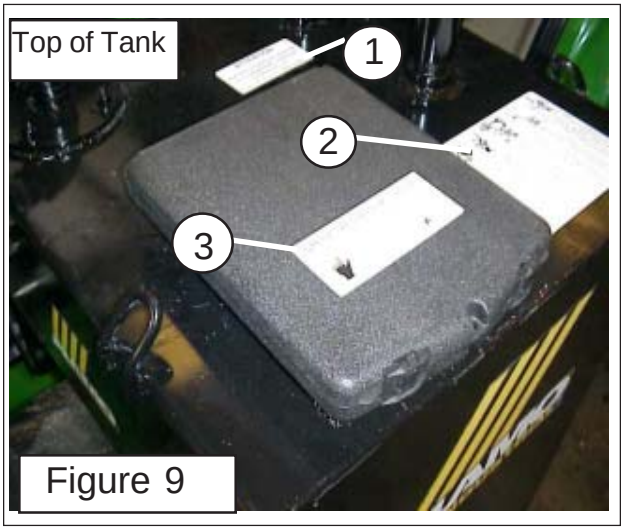

Figure 9

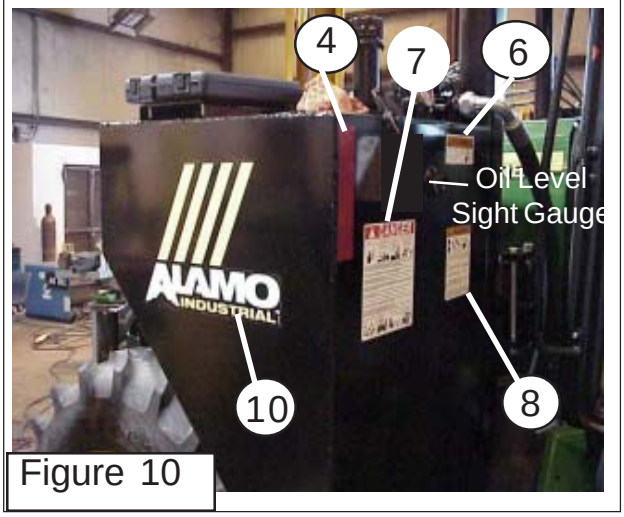

Figure 10

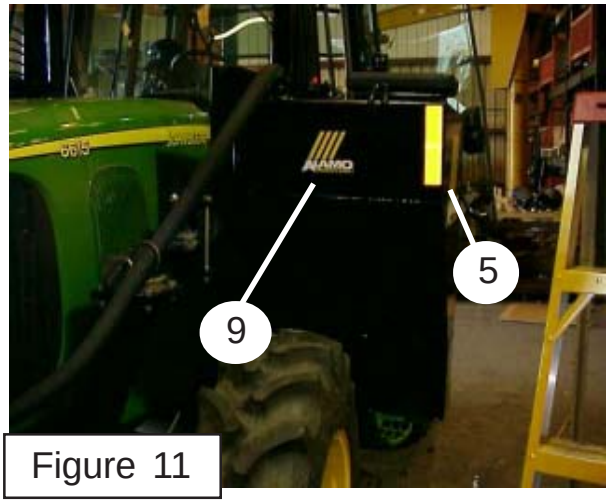

Figure 11

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Section 7

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Boom Installation

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Boom Installation

Boom Preparations For Installation :

1. Prepare Boom. The Boom will be shipped with most of the components attached, including the hoses (See Figure 1). The Boom will be wired together at the ends, this is done for shipping (See Figure 1).

2. Lifting Boom. It is best to use an overhead hoist to lift the boom (See Figure 2 & 9). This is recommended that this be a two person job as the weight and the amount of maneuvering that will need to be done. Once the boom has been lifted cut the shipping tie wire and remove the wire (See Figure 1).

3. Remove the Boom Mounting Pin. The boom mounting pin is installed in the boom. It is retained with a nut. Remove the nut and remove the retaining pin (See Figure 3). Note the hoses for the boom will be hanging down from the boom if they have been pulled out. Be careful not the damage these hoses during boom installation

4. With a hoist raise the Boom Arm See Figure 7. Step (1) and lower onto the King Post (2). Align the Boom Arm and King Post with the Lift Hinge Point. Insert Main Pin Bolt (3) into Boom Weldment and Turning Arm. Attach Lockwasher (4), Washer (5) and Bolt (6) and tighten (also see Parts Section on the Boom Assembly) **(See Figure 4, 6, 7 & 8)**

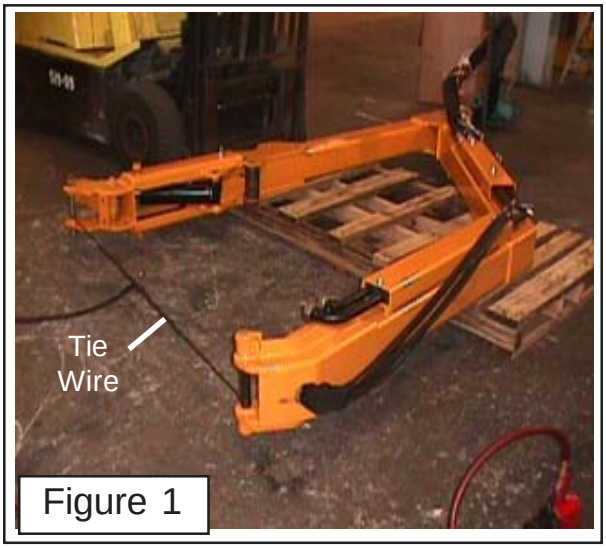

Figure 1

Figure 2

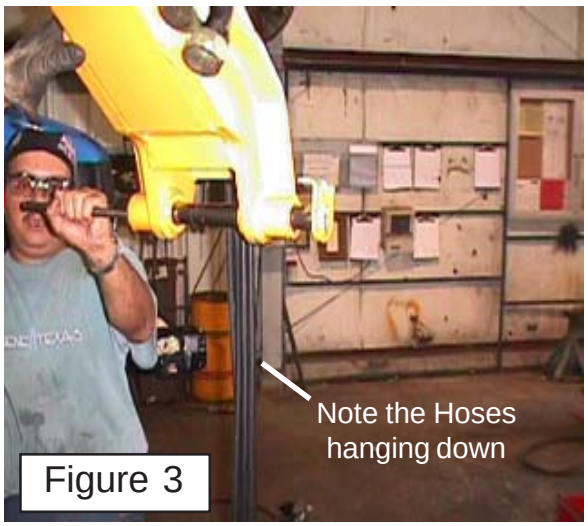

Figure 3

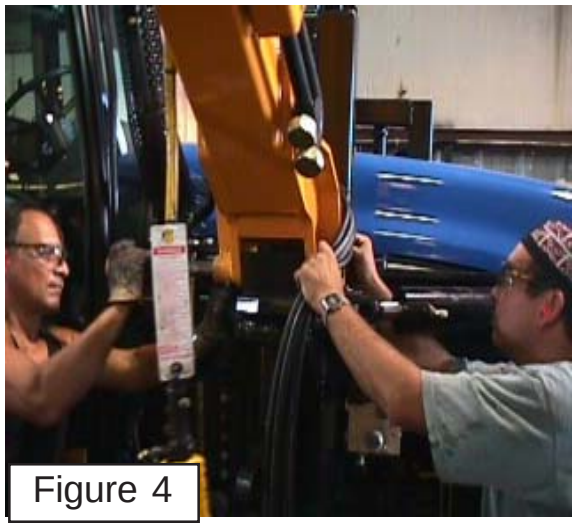
Figure 4

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Boom Installation

5. Hoses on Booms are shipped folded back inside Boom. Hoses must be pulled out and moved to clear, these must be watched so as not to damage them (See Figure 3, 4 & 5)

6. Installing Boom Mounting Pin. The boom mounting pin can be installed when boom is aligned with the pin hole (See Figure 6 & 7).

7. Cutter Motor Control Valve Assembly. Check to make certain the cutter valve has been installed from the factory on the LH side of High Frame, it will not have the Hoses attached, this will be done later. Do not remove the caps from the cutter valve fittings until the hoses are being connected (See Figure 6).

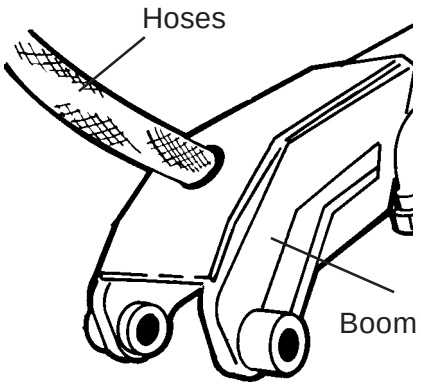

Figure 5

Boom Cylinder Installation :

1. Pull the Lift Cylinder out to its full stroke, to aid in the installation of the Lift arm **(See Figure 7)**. When Pulling Cylinder Out, attach a Hose to the Rod end and lay the Hose in a drain pan. This will catch any Oil expelled when Cylinder is pulled out.

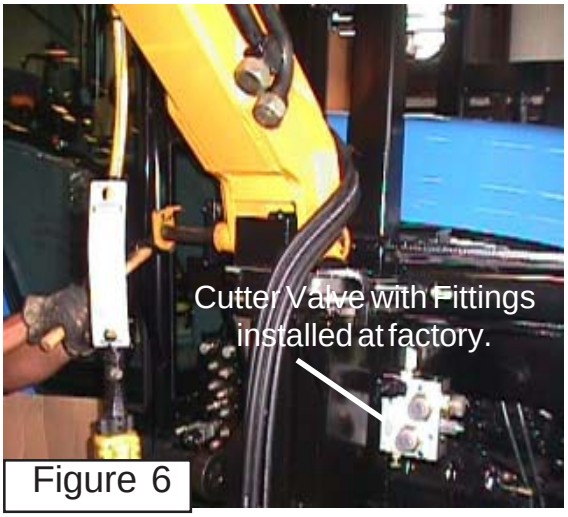

Figure 6

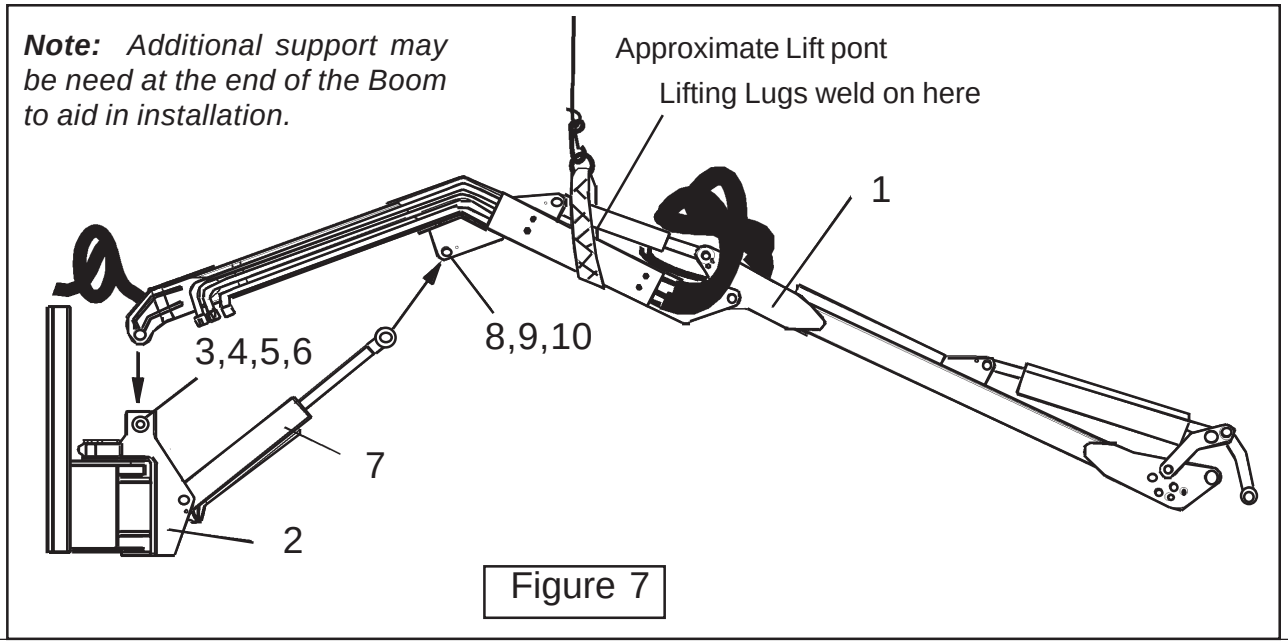

Figure 7

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Boom Installation

Boom Installation / Boom Hoses:
(continued)

2. Attach the Rod end of the Lift Cylinder (See Figure 7) Item (7) to the Lift Section with Pin (8), Bolt (9) and Nut (10) (also see Parts Section on the Boom Assembly in figure 7.

3. Attach the Swing Cylinder . The Swing Cylinder attaches to the King Post on the Rod End and to the High frame on the Butt end of cylinder, There are two holes on the High frame that cylinder can be connected to. The outer Hole is the one that cylinder pin should be put in for a rear swing A-Boom. A Forward Swing A-Boom is rare, majority will be rear Swing (parks to the rear for Transport.) **(See Figure 10 & 11).**

4. Leave Boom Supported by Hoist until Boom is connected to King Post and all cylinders attached. **(See Figure 2 & 7).** The Boom will have to be lifted again when Head is installed. Do not lift Boom with Hoist if the Cylinder hoses are open, the Cylinders are built with the internal components covered with Oil. If boom is raised by hoist while these hoses are disconnected oil may be forced out of end of cylinder ports on to the floor, it is best to make certain the hoses are connected.

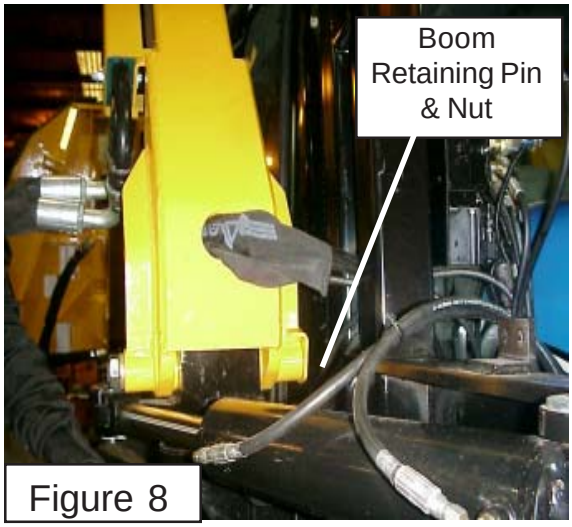

Figure 8

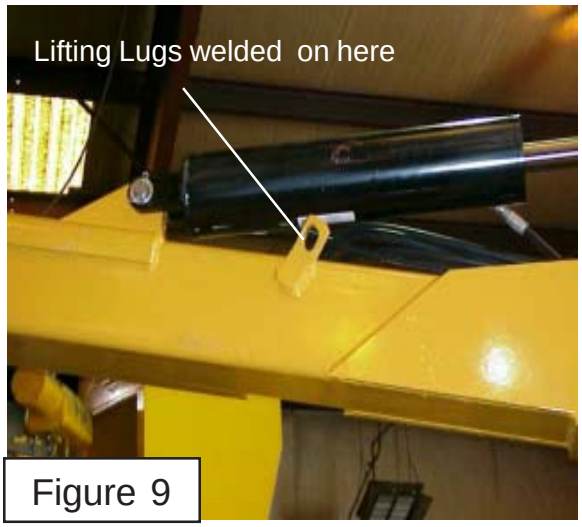

Figure 9

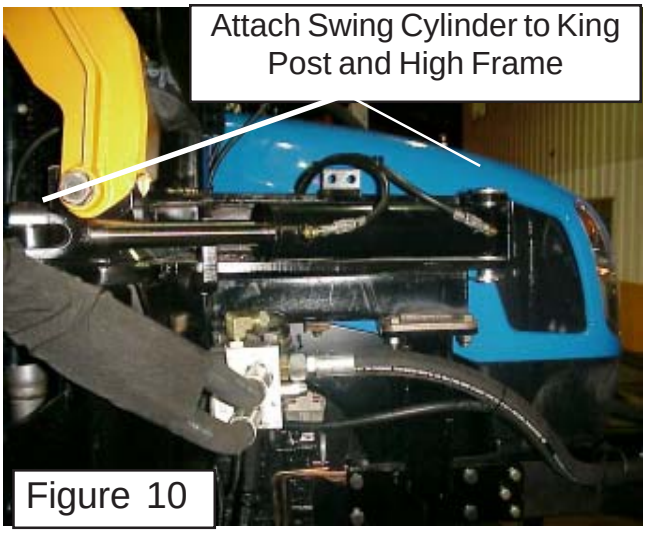

Figure 10

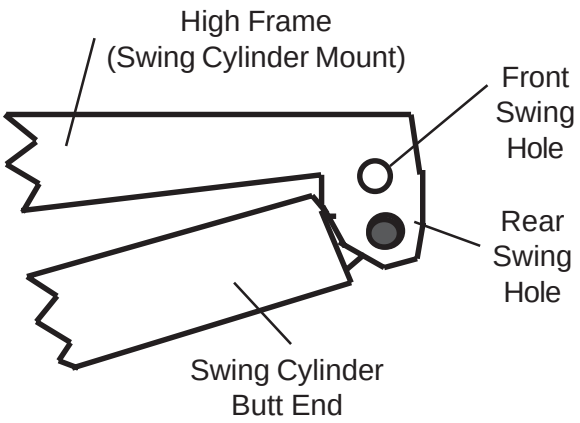

Figure 11

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Hose Installation

Pump / Tank Hose Installation:

1. Suction Hose, Tank to Pump. The Suction hose connects to the front RH side of Tank **(See Figure 12)** and runs through a Hose Ring that is welded to the frame Rail **(See Figure 13).** The Suction Hose connects to the front Pump on the Left Hand Side of Pump **(See Figure 14).**

2. Connect Pressure Hoses. There are two pressure hoses that connect to the Pump. The Larger Hose **(See Figure 14 & 15)** runs through a weld on Hose Ring and to the Cutter Motor Control Valve **(See Figure 16)**. The Small Hose runs to the Cylinder Control Valve. Connect the smaller hose to the pump and route with the larger hose.

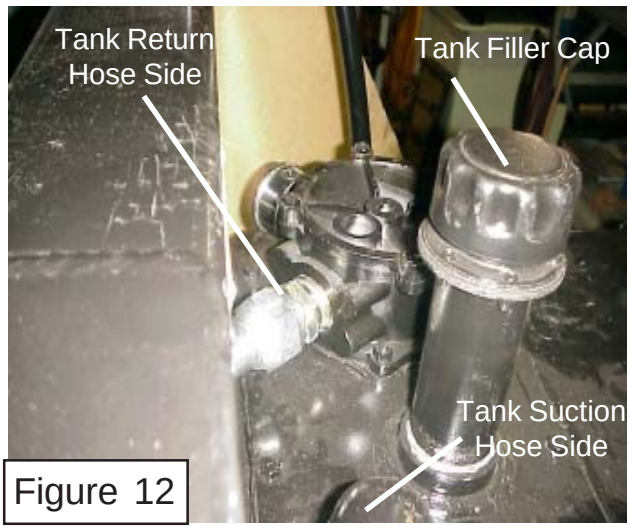

Figure 12

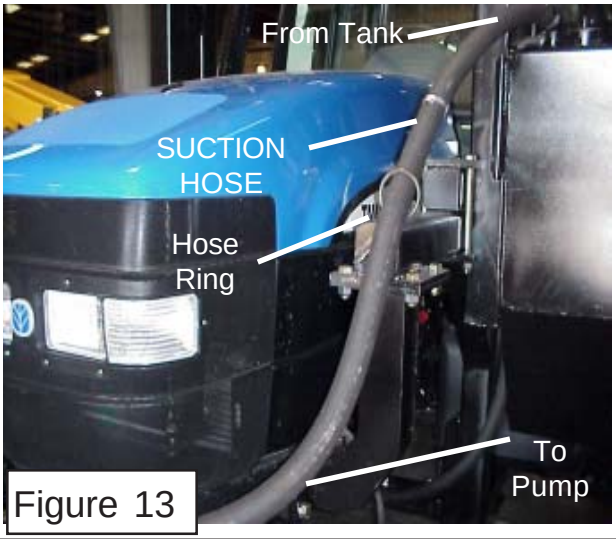

Figure 13

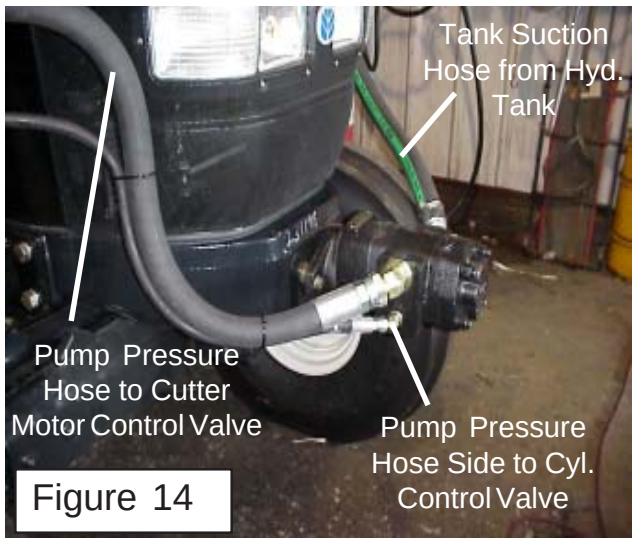
Tank Suction Hose from Hyd. Tank
Pump Pressure Hose to Cutter Motor Control Valve
Pump Pressure Hose Side to Cyl. Control Valve
Figure 14

Figure 15

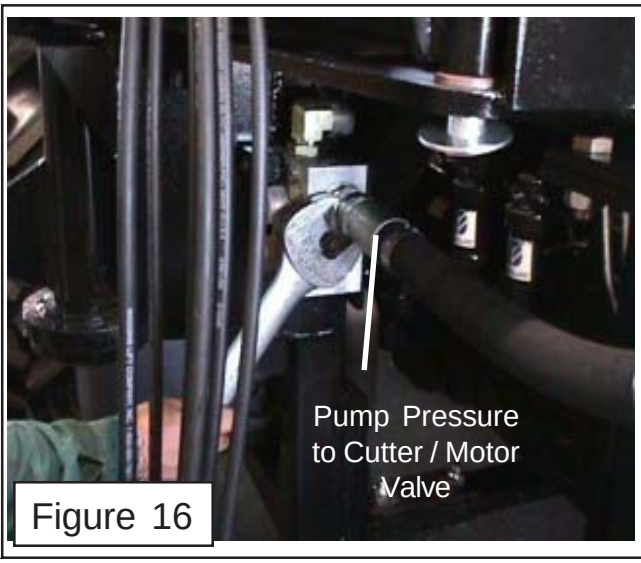

Figure 16

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Hose Installation

Pump / Tank Hose Installation: (continued)

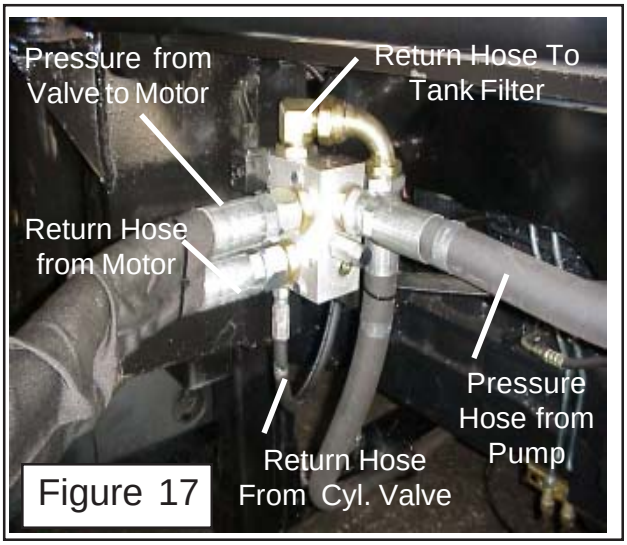
3. Connect hose from Pump to Cylinder Control Valve. This will be the small hose connection on the RH side of the pump **(See Figure 17)** for this hose, this hose cannot be connected to Cyl. Control valve untill later.

4. Connect Hose from Cutter Valve to Motor. The Hose from the Cutter / Motor Control Valve runs down the Boom using Steel lines and Hoses **(See Figure 17)**

5. Connect Return Hose from Motor to Cutter / Motor Control Valve. Connect the hose from the Motor return to the Cutter / Motor Control Valve **(See Figure 17).**

6. Return Hose from Cutter Valve to Tank. Connect the return hose from the Cutter / Motor Control valve to the Tank. **(See Figure 17)**. This hose will run down under tractor to the left side. **(See Figure 17, 18,19 & 20)** anfd then back up the LH side to the Tank. **(See Figure 20).** The return hose connects to the return Filter Housing **(See Figure 20).**

7. Return Pressure Gauge. The Return Pressure Gauge is a low Pressure Guage that displays uses in Green and Red Fields, Return should stay in the Green when Oil is warm and Tractor is running. **(See Figure 20).**


Pressure from Valve to Motor
Return Hose To Tank Filter
Return Hose from Motor
Pressure Hose from Pump
Return Hose From Cyl. Valve
Figure 17

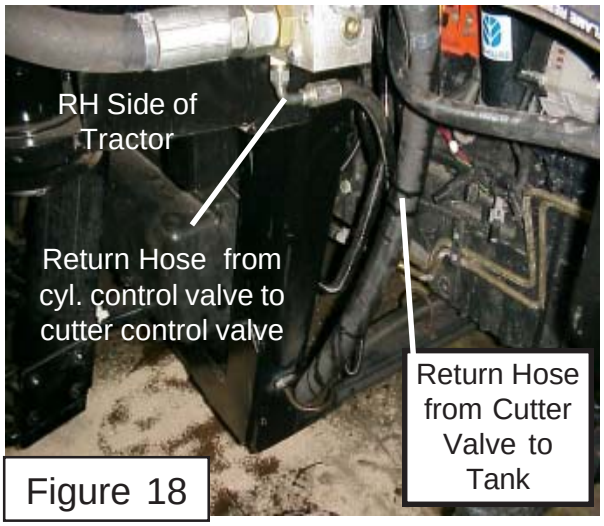


Figure 18

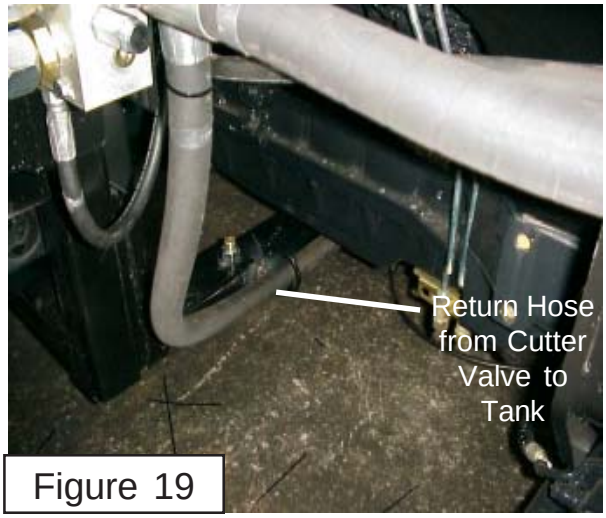


Figure 19

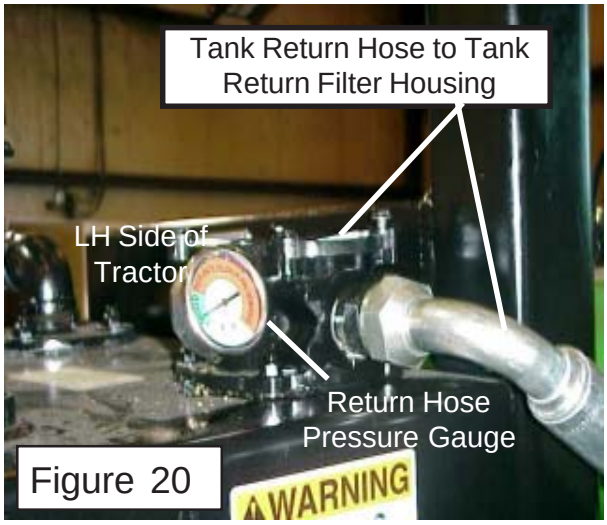


Figure 20

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Section 8-A

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Standard Manual

Cylinder Control Valve Installation

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Manual Cylinder Control Valve Installation

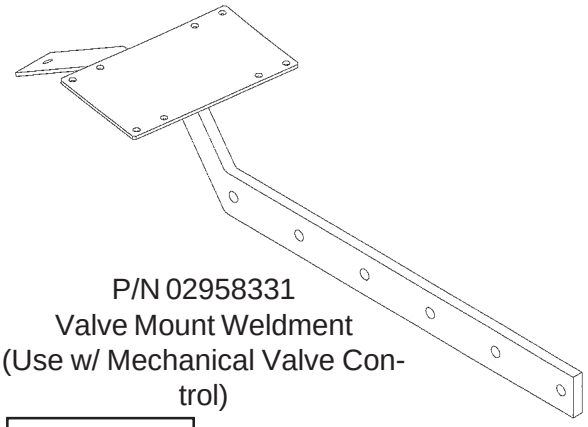
NOTE! There are different Valve Control Options offered with this model, the mechanical control Valve with handles or the electronic control joystick option. Check which you have before beginning this section.

1. Install Valve Mount Weldment & Valve Mount Strap. The valve mount weldment will clamp around the high frame using the valve mount strap and two long bolts . Locate the valve mount weldment and strap (See Figure 1 & 2). Clamp valve around the high frame as shown (See Figure 3).

2. Install Valve Control Handles. The control valve will be shipped with the control handles but they will need to be installed on the control valve. They are installed using pins, connectors and cotter pins (See Figure 5).

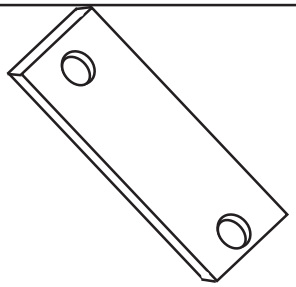
3. The "ON" / "OFF" Switch . The Valve mount weldment has a tap on it that points to the back of the tractor, this is to mount the "ON" / "OFF" switch. The switch is mounted here for easy access by the operator. If for any reason the switch must be mounted elsewhere, keep in mind it must be accessible quickly by the operator in case of emergency needs. (See Figure 4).

4. Control Valve Hose Connection Flow Restrictors. This is a sectional valve which has flow restrictors installed in it. These restrictors are installed for a specific function and must be installed with the correct hoses in the correct port in order to function correctly (See Figure 7).



P/N 02958331
Valve Mount Weldment
(Use w/ Mechanical Valve Control)

Figure 1



P/N 02821400
Valve Mount Strap
(Use w/ Mechanical Valve Control)

Figure 2

Figure 3

Figure 4

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Manual Cylinder Control Valve Installation

5. Valve Hose Connections. The valve hoses must be connected in the correct ports or the valve will not function correctly.

6. Hydraulic Cylinder Hoses. The Hoses for the Hydraulic Cylinders will be marked with bands that have the Part Numbers on them. These part numbers will vary with the size of the Boom Model. The 28 ft. model will have more hoses for the Boom Extend Function, the model with the Hydraulic Door on cutter head will have more hoses. To find which Hose you have you will need to consult the Parts / Operators manual. When connecting the Hoses to The Valve use these numbers to connect the correct hoses to the correct ports. It may be required that you do some tracing of hoses to find which hose is hooked to which end of a Cylinder. Listed below is a list of which end of Hydraulic Cylinder should be connected to which Port on valve. **(See Figure 7 & 8)**

Cyl. End Port ID	Base Port	Rod Port	
Tilt	("B")	("A")	Standard
Extend / Door	("B")	("A")	28' Only
Dipper	("B")	("A")	Standard
Lift	("A")	("B")	Standard
Swing	("A")	("B")	Standard

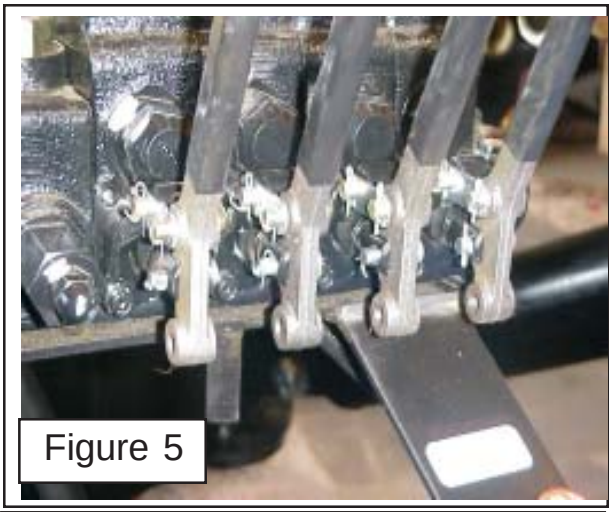

Figure 5

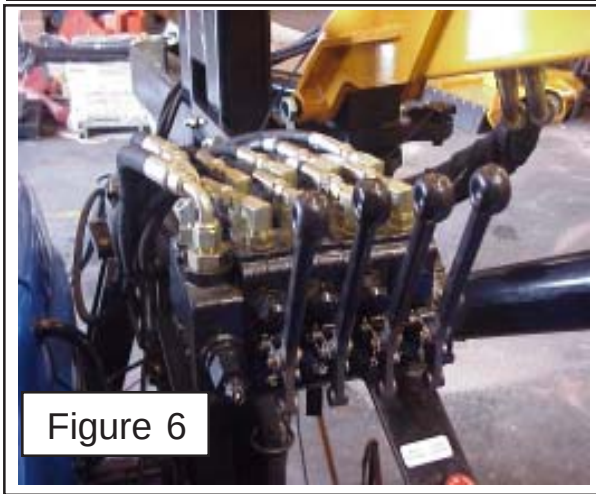

Figure 6

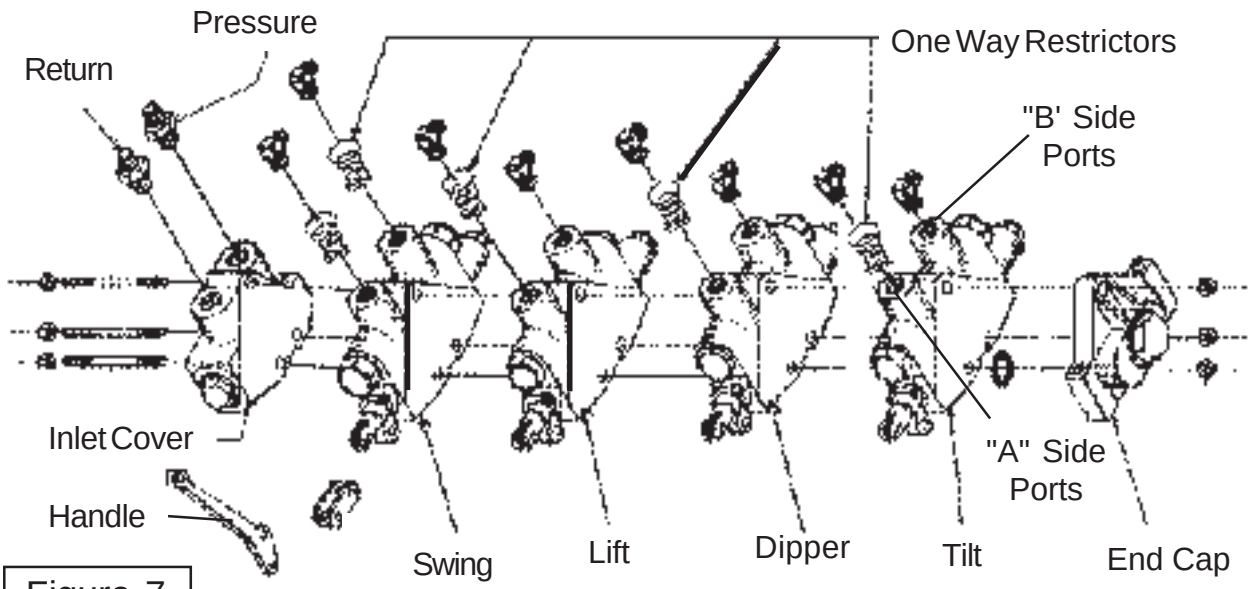

Figure 7

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Hydraulic System Schematic

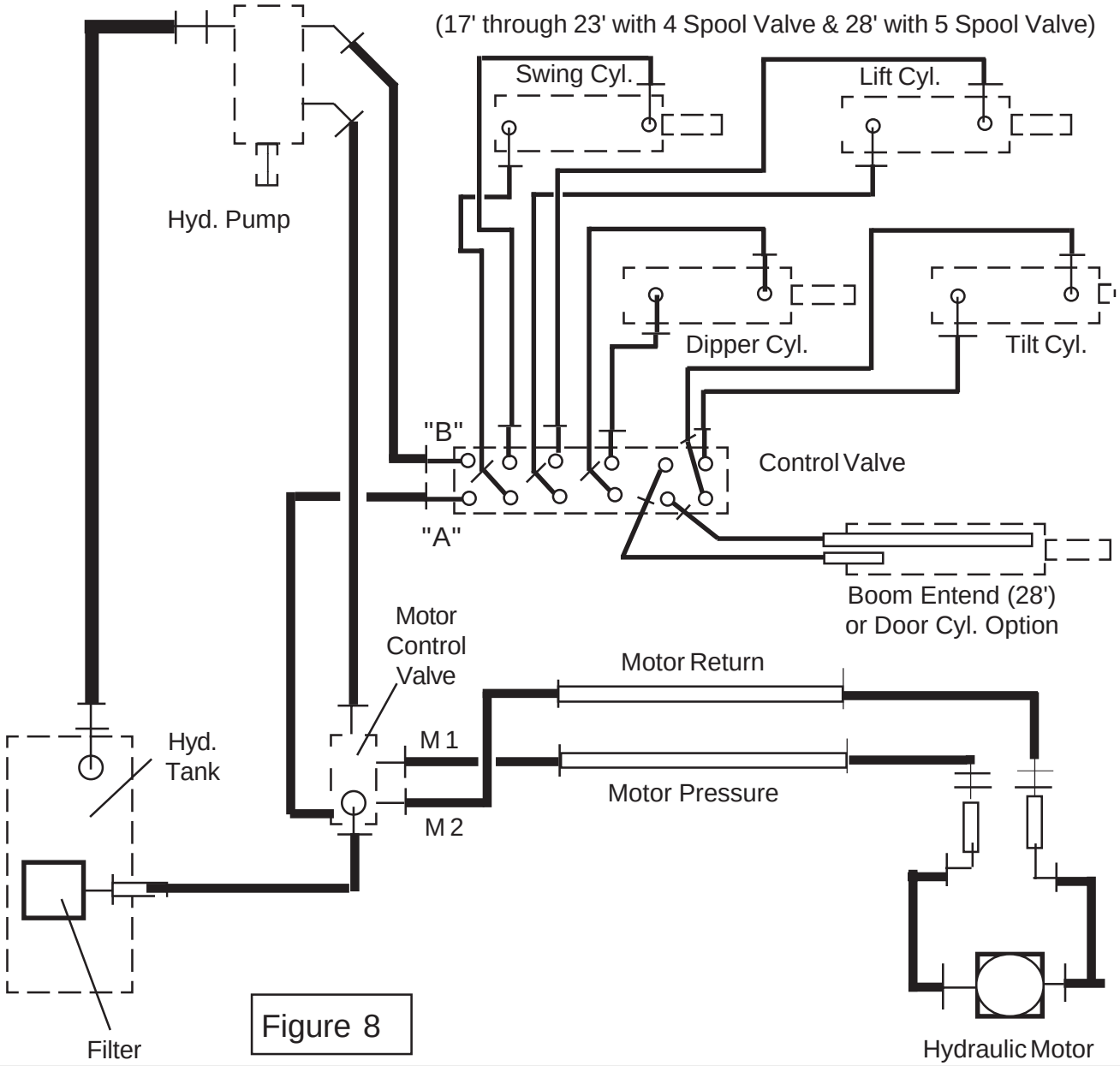

Figure 8

Cylinder Hydraulic Control Circuit: (See Figures 7 & 8)

The Hydraulic Schematic above shows a 5 Spool System, The 4 Spool System is the same with the exception the 5 th. spool which is installed between the Dipper and Tilt Cylinder Spools. When you assemble this you will not have to assemble the Valve, it will come to you already assembled as a 4 Spool or 5 Spool depending on which model and which option you ordered. Hoses must be connected to the correct Valve Port so the Control Functions will operate in the correct direction.

You must consult the Parts Manual to determine correct Hoses used on the Model you have. Also the type Head used will make the Hose vary. There is a Electrical control valve Option, this will make a difference of which hose is connected where. If the hoses are connected to the wrong side of valve it should not damage any thing, it will mean that the control lever function will be reversed or may not work at all because the Relief Valve is in the wrong direction of Oil Flow to operate.. Changing the Hoses on the hose ports of the valve will change this.

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"ON - OFF" Switch Installation

Wire Harness: (Standard Mechanical Valve)

1. Starter Safety Switch Schematic, Mechanical Cable Operated Valve Type, NOT correct for Optional Joystick (Electronic) Controls.

2. Figure 4 illustrates a common wire harness connection for A-Boom mowers with mechanical cable controls, If the Joystick Optional controls are used the Wiring will be different than shown.

3. Individual installations may vary and are dependent on the electrical and safety system designs of the tractor to which the mower is mounted.

4. Consult the specific mounting instructions to determine the correct wire routing for each specific unit.

Common Problems:

1. The tractor won't start: The mower on/off switch, if left in the "on" position will not allow the tractor to restart. Be sure to push the switch into the "off" position and account for all the tractor safety interlocks to enable the tractor to start. Failure of the tractor starter safety lock system is normally attributed to a failure of the mower on/off switch. Check continuity at the switch. Check for loose connections.

2. Cutter motor won't start: Normal causes of this type of malfunction include failure of the push/pull switch, failure of the solenoid coil, loose connections, loss of ground, or a blown fuse. If the mower won't start, check continuity of the system with a test light to find an electrical problem. Problems may also exist in the cutter valve and other systems.

3. The problem may not be in the electrical system, but because there are so many connections that could be malfunctioning it is the best place to start checking. If the electrical connections are OK, go on to the Tractor connections and/or the Tractor components to check for the malfunction. Some times the service technician thinks the best way to eliminate the Mower electrical connection problem is to bypass them; this should never be done, eliminating the starter safety system is dangerous and hard on the Hydraulic System, The Hydraulic System will be trying to start at a low RPM which is not good.

Standard Control Valve Operation:

1. This Control valve is the Standard 4 Spool that is Manualy Controlled, The 28 ft. model used a 5 Spool valve with the 5 Th. Spool operating the Boom Extension. THIS SECTION WILL NOT apply to the OPTIONAL ELECTRONIC JOYSTICK CONTROLS. This Section mostly shows the 4 Spool Valve, The 5 Spool Valve is mainly the same with the 5 Spool operating the Hydraulic Door option on the Rotary head or the Boom Extension Cylinder on the 28-ft. Model. **(See Figure 7 & 8)**

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"ON - OFF" Switch Installation

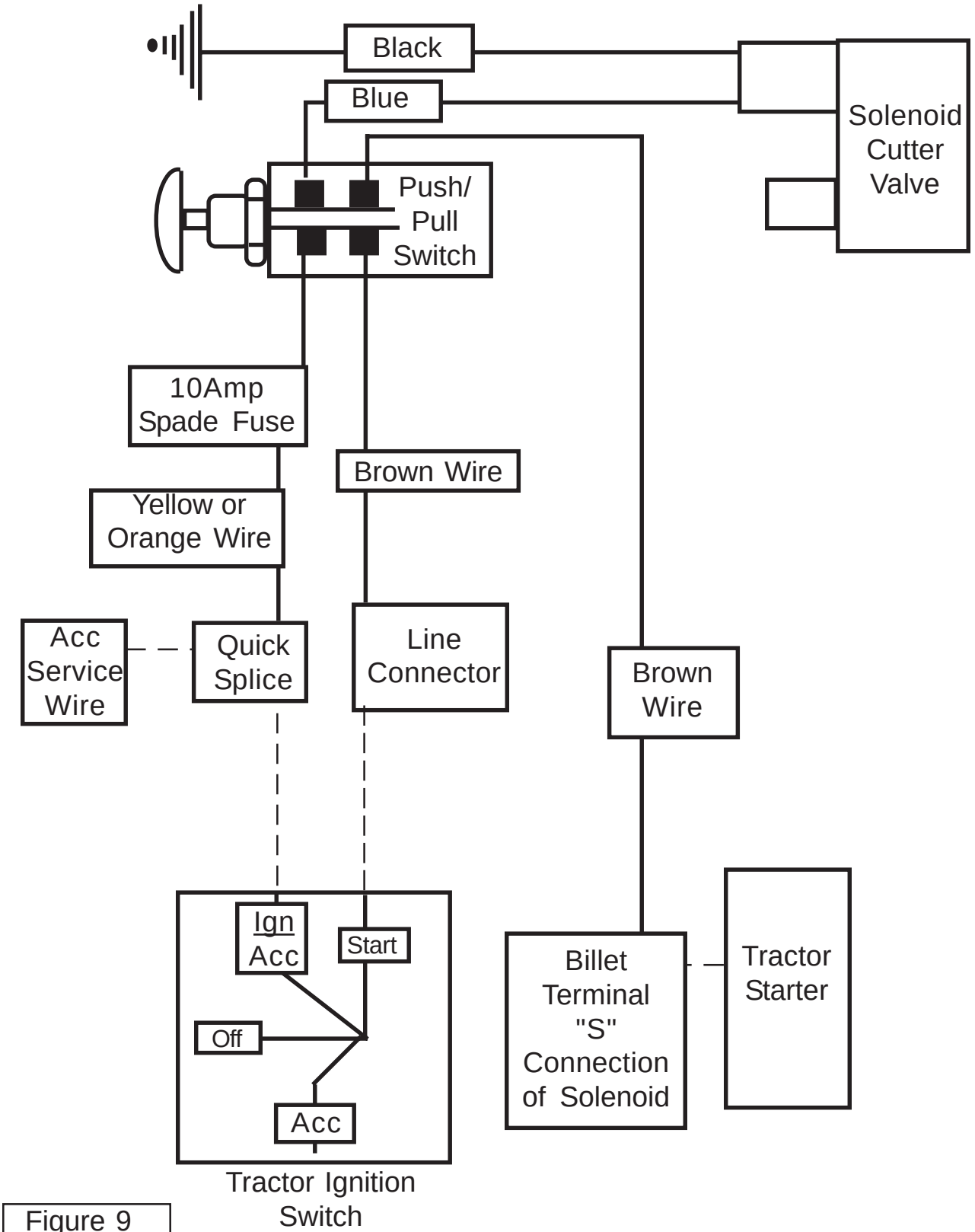

Figure 9

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Cylinder Control Valve Installation

Standard Control Valve Operation:(continued)

2. The Standard Tandem (Dual) Pump System is Shown, there is a Single Pump System Option available. The Single Pump only supplies the Hydraulics for the Cutter Head Motor and the Tractor Hydraulic System is used to supply the Boom Cylinder movements. The Schematic is very much the same except the Cylinder Control Valve Hose connections are run to and from the tractor instead of the way they are shown in the Schematic on the next page. (See System Schematic drawings for Pump Repair Section).

3. The Control valve will not bolt on the top of the High Frame on the right hand side **(See Figure 6).** The Valve in Figure 6 does not show the cables for the manual Control Cables connected, this is for illustration only. The Control Cables and Hoses are connected after the Valve is bolted to the mount plate. The Hoses must be connected to the correct Port on the valve and to the correct side to operate correctly **(See Figure 8)**. You should have a copy of the Operators Manual and/ or Service manual for making this installation. The Control cables for the manual controls will connect to the right side. This valve is bolted to weld on bracket between frame rail and cab on LH side of tractor.

4. Connecting Wireing to tractor starter circuit. The wire harness will be connected to the tractor starter circuit as shown (See Figure 10)

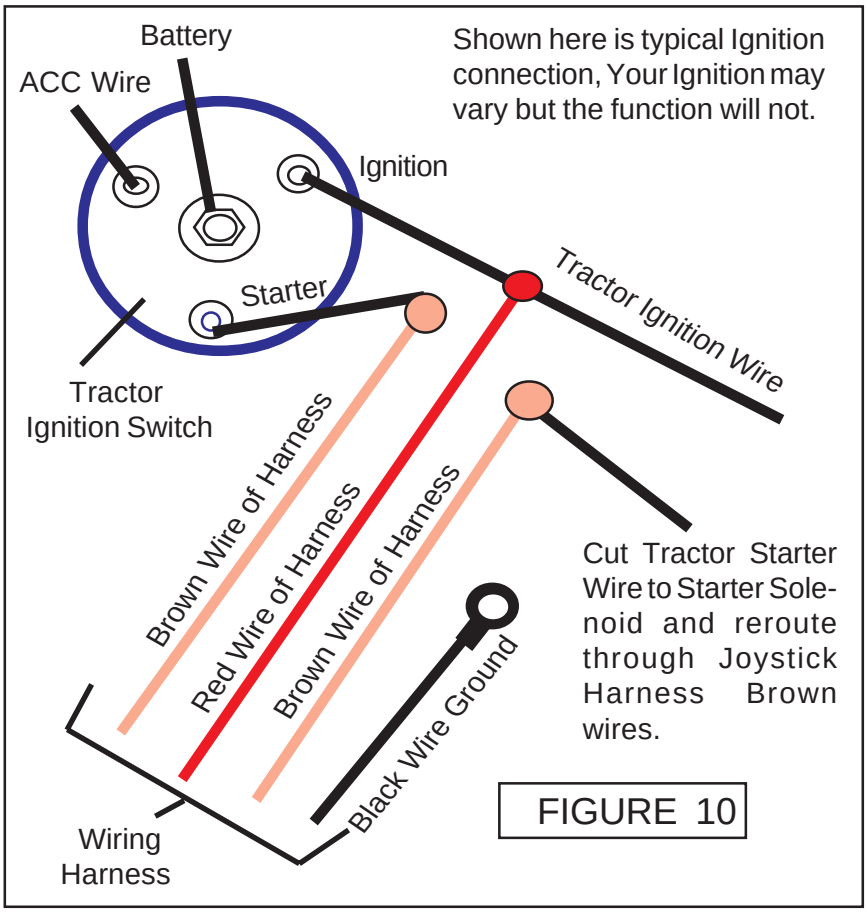
Battery
ACC Wire
Shown here is typical Ignition connection, Your Ignition may vary but the function will not.
Ignition
Starter
Tractor Ignition Wire
Tractor Ignition Switch
Brown Wire of Harness
Red Wire of Harness
Brown Wire of Harness
Cut Tractor Starter Wire to Starter Solenoid and reroute through Joystick Harness Brown wires.
Black Wire Ground
Wiring Harness

FIGURE 10

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NOTES

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Section 8-B

A-BOOM

New Holland
TM-120,130,140 & 155
Cab 2 & 4 Wheel Drive Tractor

Optional Electric Hydraulic

Joystick Cylinder Control Valve Installation

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Joystick Mounting

Joystick Installation :

1. Floor Access Hole. The ROPS tractor will not needt the componets run through the floor as they will be run alont the high frame on the RH Side.

2. Remove Tractor Dash Panel . Remove the plastic panel on the RH side of the dash from the floor up (See Figure 1& 2). This will give access to the tractor ignition switch plug for connecting the wire harness to the tractor starter wires (See Wire Schematic). See the New Holland Manual for the location of the wires to the switch on the tractor.

3. Locate the Seat Panel Bolts. The Joystick mounting bracket will bolt the lower seat panel (See Figure 3 & 4). This will help it clear the Joystick when it is mounted,

4. Install Joystick Console Controller. Set the Joystick Controller down on top of the mounting bracket and insert the two mounting bolts (with flat washer and lockwashers) form the bottom side of the console. DO NOT used excessive long bolts to mount the joystick. The joystick will have some adjustment through the mounting bolts as to where it will sit on bracket. Tighten the two mounting bolts for the joystick from the bottom (See Figure 5 & 6)

5. Attach Wire Harness to the Joystick. DO NOT CUT floor mat it is not required. The wire harness will fit between the floor mat and the the floor. The Wire harness connects to the joysick through a plug at the bottom of the joystick console. This plug will only fit on one way, there are three notches (of different width) that must be aligned before the plug will fit. (See Wire Schematic and Figure 7).

6. Connect the wire harness to Tractor Connections. See the wire schematic for the wire connections to the tractor wiring. Make certain that the battery cables are disconnected before attempting to connect any wires. (See Figure 9)

FIGURE 1

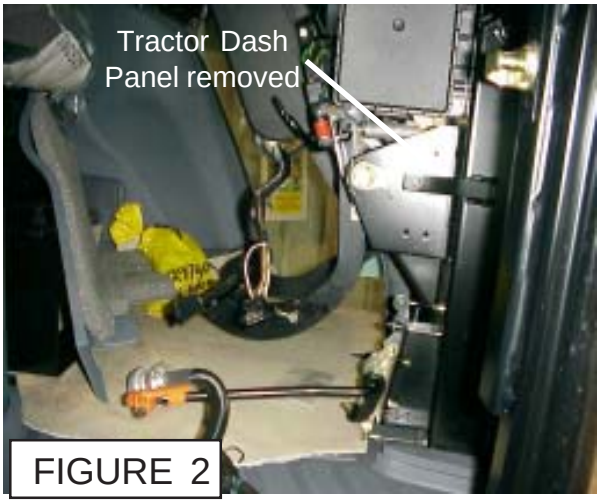

FIGURE 2

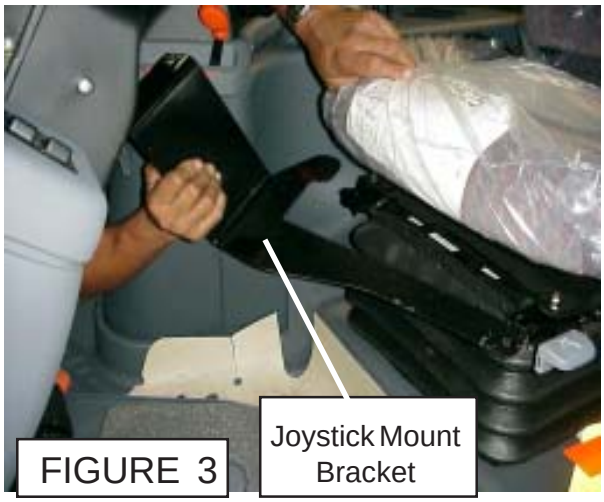

FIGURE 3

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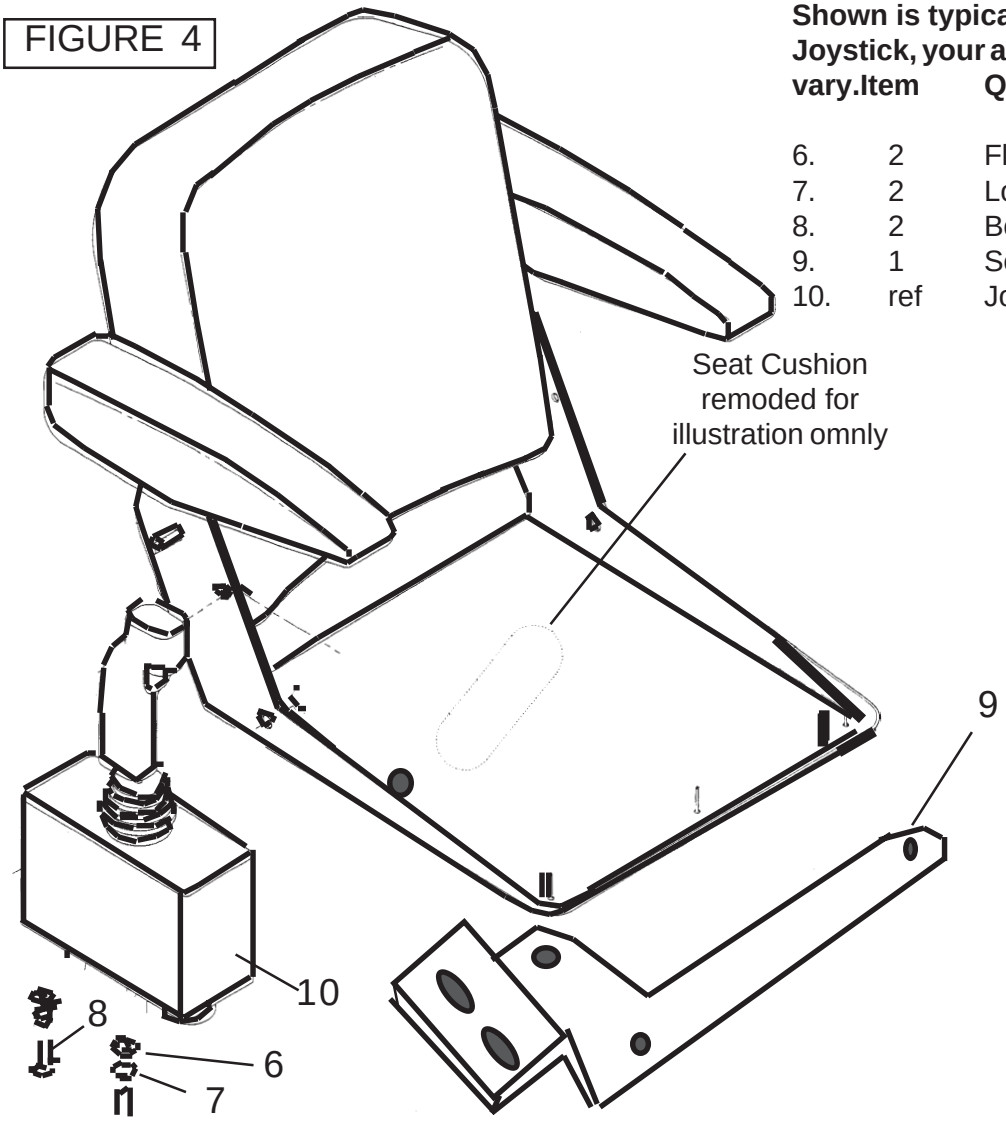
Joystick Mounting

FIGURE 4



Shown is typical connection for Joystick, your application may vary.

Item	Qty	Description
6.	2	Flatwasher, 3/8'
7.	2	Lockwasher, 3/8"
8.	2	Bolt, 3/8" X 1
9.	1	Seat Mounting bracket
10.	ref	Joystick

FIGURE 5

FIGURE 6

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Joystick Mounting

6. Connecting Harness Wires. There are 4 wires that must be connected inside Tractor. 1. Red Wire (power supply), 1 Black Wire (Ground) and 2 Brown Wires (Neutral Safety Switch). These will have to be spliced into Tractor circuits. (See Figure 9).

7. Ground Wire. The Black wire at the harness (See Figure 9) can be connected inside the cab floor, or it can be run down through the floor and connected to the frame below the cab. If grounding to the Cab floor connect ground now.

8 Reinstall Dash Panel. Reinstall the dash panel after the wires have been connected to the tractors wiring system (See Figure 10 & 11) . The dash panel is attached with screw on fasteners. Note: All wires for the trator connection with wire harnes should all be under floor mat of tractor and not visible with the exception of the narness running up to the bottom of the joystick. (See Figure 10 & 11)

FIGURE 7

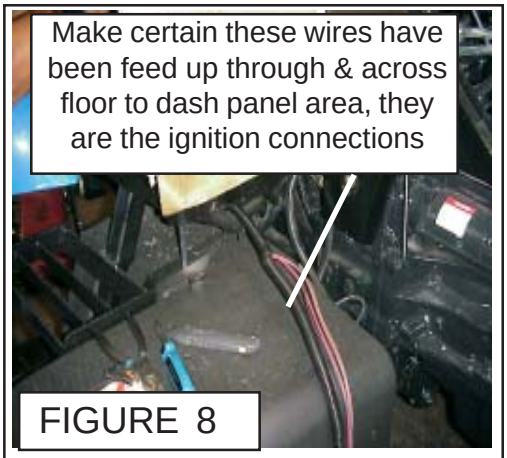

FIGURE 8

Installing Wire HarnessTo Valve:

1. Wire Harness From Cab to Front. The wire harness runs out the bottom of the Cab on the right hand side. Run harness along under RH side of the tractor floor to the control valve (See Figure 8). Note the wire harness runs bottom of cab and near the exhaust from the Tractor to the Stack Valve to the front of the tractor. Make certain to tie the Harness or Hoses to the Tractor for protection.

2. Gaskets on Valve Terminals. There are 5 wire terminals on Valve, A Gasket will have to installed on each one. These gaskets will only fit one way, there are 4 slots in gasket. 1 Slot is wider than the other 3, align these slots with correct terminal on Valve. (See Figure 13 & 14). These Gaskets must be used. Note; the gasket are shown laying on a tank only as a back ground, they must be installed on the valve before wire terminals are connected. In the Illustration in Figure 14 the Plugs are no visible because they are under the hoses on the bottom.

3. Connect Lock Valve connections. There is a lock valve use on the head Tilt function, this electric locking device is located at the valve on tilt hose connections, this connection needs to be made now.

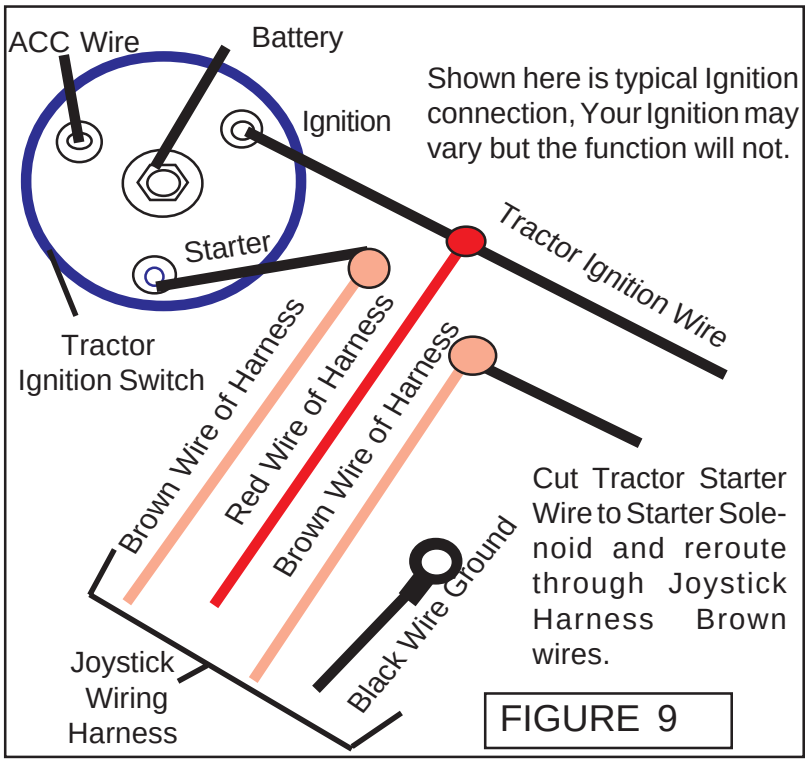
ACC Wire
Battery
Ignition
Starter
Tractor Ignition Switch
Shown here is typical Ignition connection, Your Ignition may vary but the function will not.
Tractor Ignition Wire
Brown Wire of Harness
Red Wire of Harness
Brown Wire of Harness
Black Wire Ground
Cut Tractor Starter Wire to Starter Solenoid and reroute through Joystick Harness Brown wires.
Joystick Wiring Harness

FIGURE 9

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Joystick Mounting

4. Wire Harness Terminal Identification. The Wire Harness Terminal Plugs are marked in writing on the plug. Swing, Lift, Dipper, Tilt and Door terminal plugs (5 Total). The Valve terminals are in this same order starting at the bottom and coming up on the valve. You will need to have a short handle Phillips screwdriver for this. (See Figure 26).

5. Wire Harness Terminal Installation. You will need to feed wire harness under the fitting of hoses to valve. (See Figure 14) lay the Plugs out in the Order they are to be installed starting at the far end terminal.

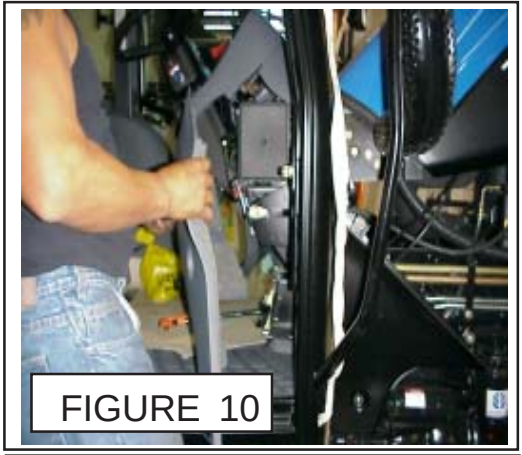

FIGURE 10

FIGURE 11

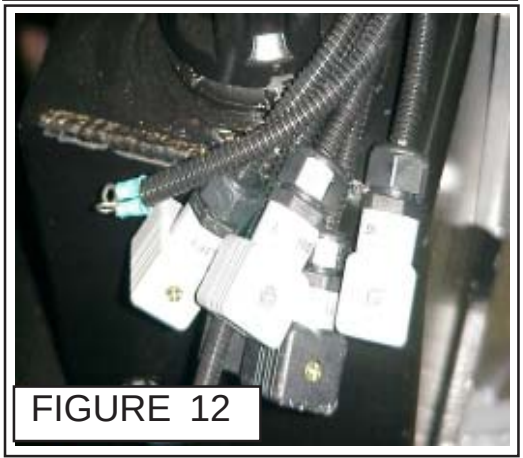

FIGURE 12

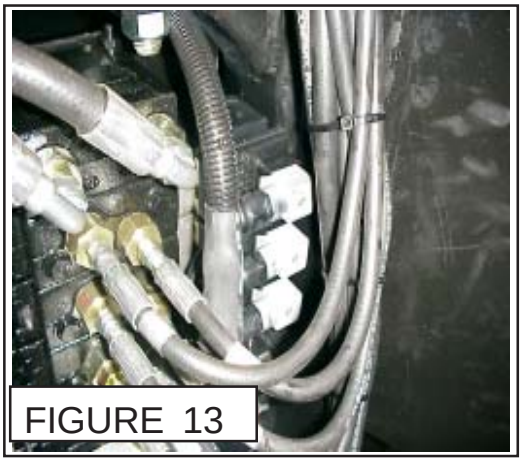

FIGURE 13

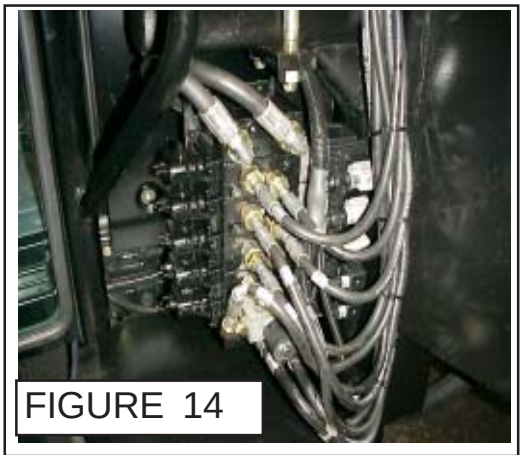

FIGURE 14

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Joystick Valve Schematic

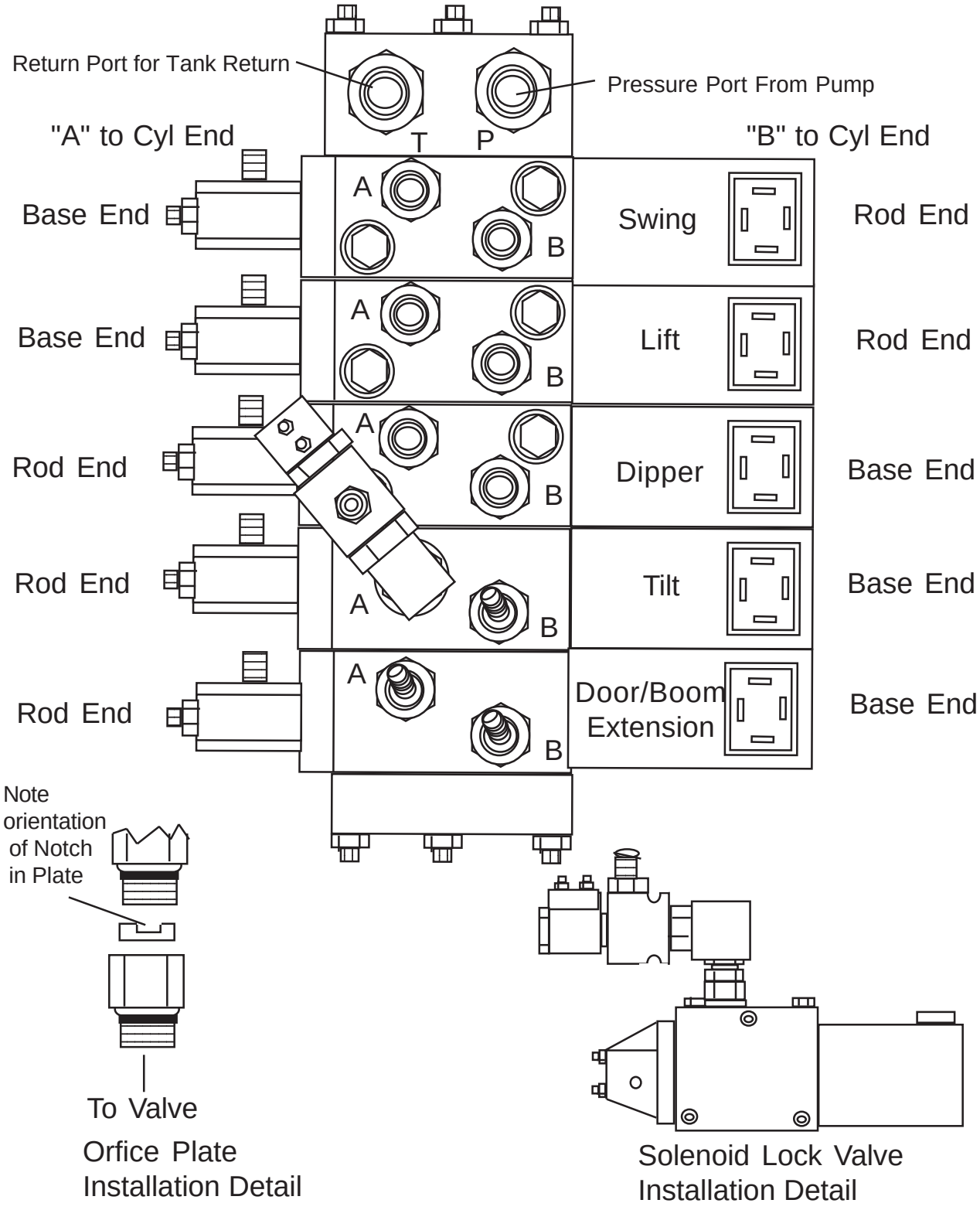

FIGURE 15

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Installing Wire Harness To Valve: (Continued)

6. Terminal Connections. Makecertain that the Valve is mounted on the lower frame rail between hitch post and tracor cab (See Figure 14), if valve is mounted on top of the RH frame rail these illustrations will be shown upside down with pressure and return ports at the bottom opposite shown. Make Certain that each terminal Plug on Valve has had the Gasket installed on it, then Install Swing Terminal and tighten Plug Retaining Screw. Continue this with all 5 plugs starting at one end and go to the next end (See Figure 15)

	PLUG	FUNCTION
1	1 st Plug	Swing Terminal
2	2 nd Plug	Lift Terminal
3	3 rd Plug	Dipper Terminal
4	4 th Plug	Tilt Terminal
5	5 th Plug	Door Terminal

Using a short handle phillips screw driver connect and tighten all 5 terminal plugs one at a time till all 5 are connected. (See Figure 15 & 16)

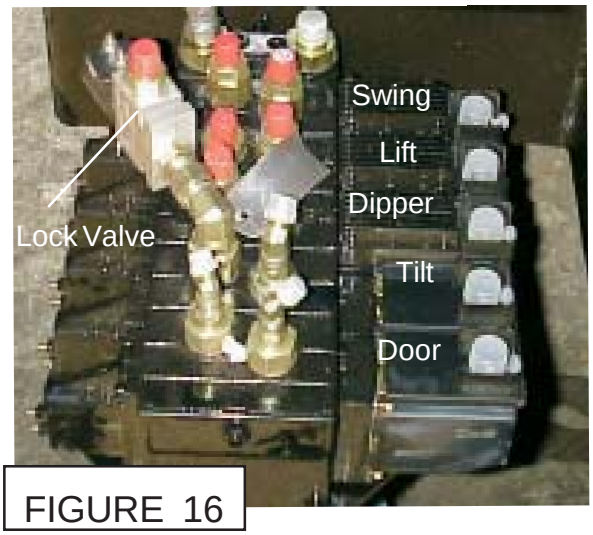

FIGURE 16

FIGURE 17

7. Solenoid Lock Valve Connection. Make certain the Solenoid Lock valve is mounted on the Valve Tilt Port on the bottom Side (See Figure 15). Find the two wires in harness that has eye terminals on them. Connect them to the Solenoid Lock Valve (See Figure 15, 16 & 20)

8. Wire Harness Completed. Pull the Wire harness back toward Cab to remove any excess slack, only enough to remove slack not to make Wire Harness tight. Tie wire harness or hoses to Tractor Frame Rails to prevent them from rubbing or getting caught on something. The Wiring Schematic is shown in this book as a reference only, the wire harness will come to you assembled and ready to mount. The only wires that will have to be altered are the wires inside that connect to the existing Tractor Wires. These inside wires are intentionally left long so they can be cut as needed. None of the wires with the factory plugs will have to be cut.

9. See the next two pages for Wiring Schematic, this is listed as reference only. Pin locations in schematic are actual pin locations in Plugs. Plugs are marked with the letters as shown. This schematic is listed to assist you in tracing wires through harness if needed. Do not change or modify the harness plugs in any way.

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Joystick Plug (Bottom of Joystick Console)

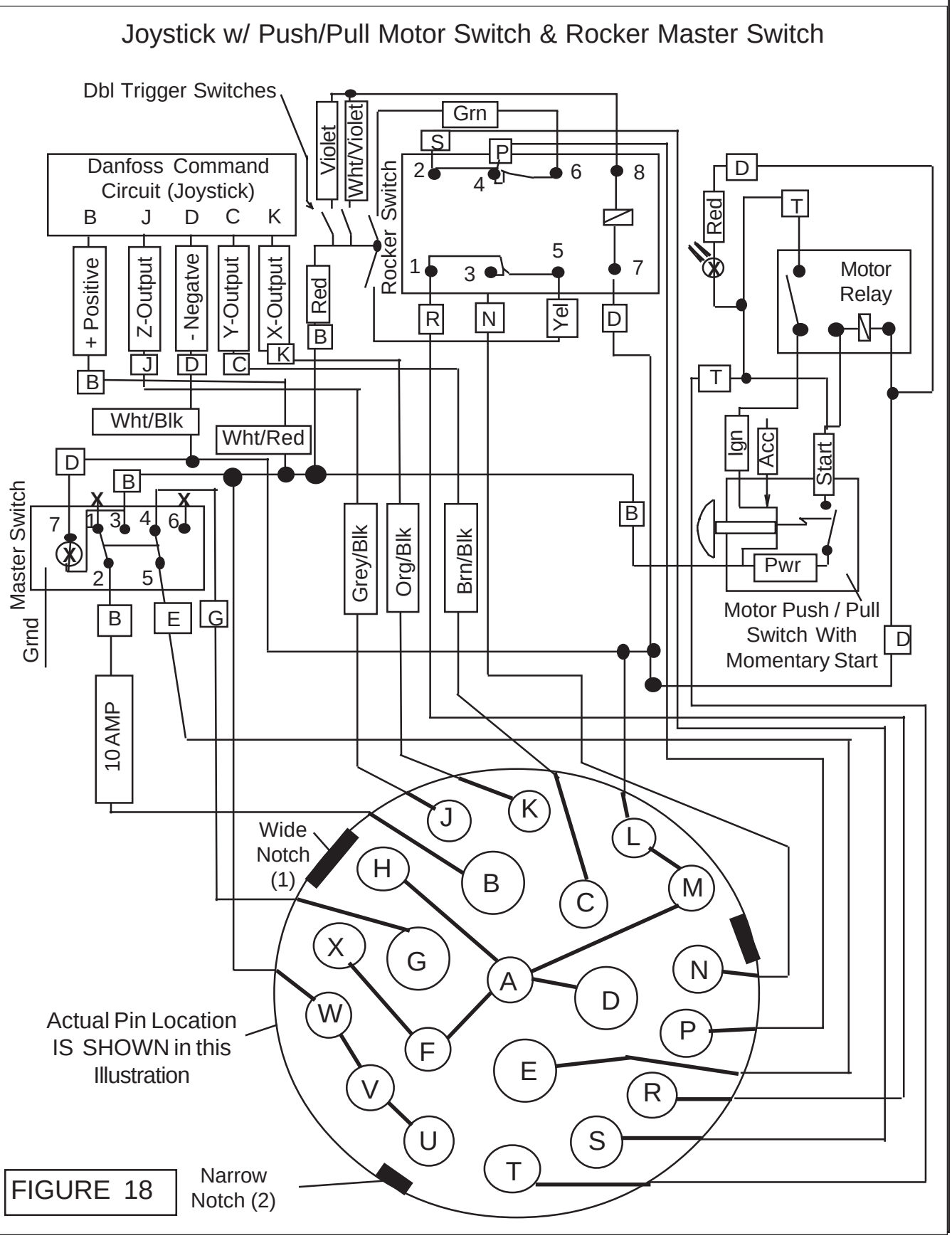

FIGURE 18

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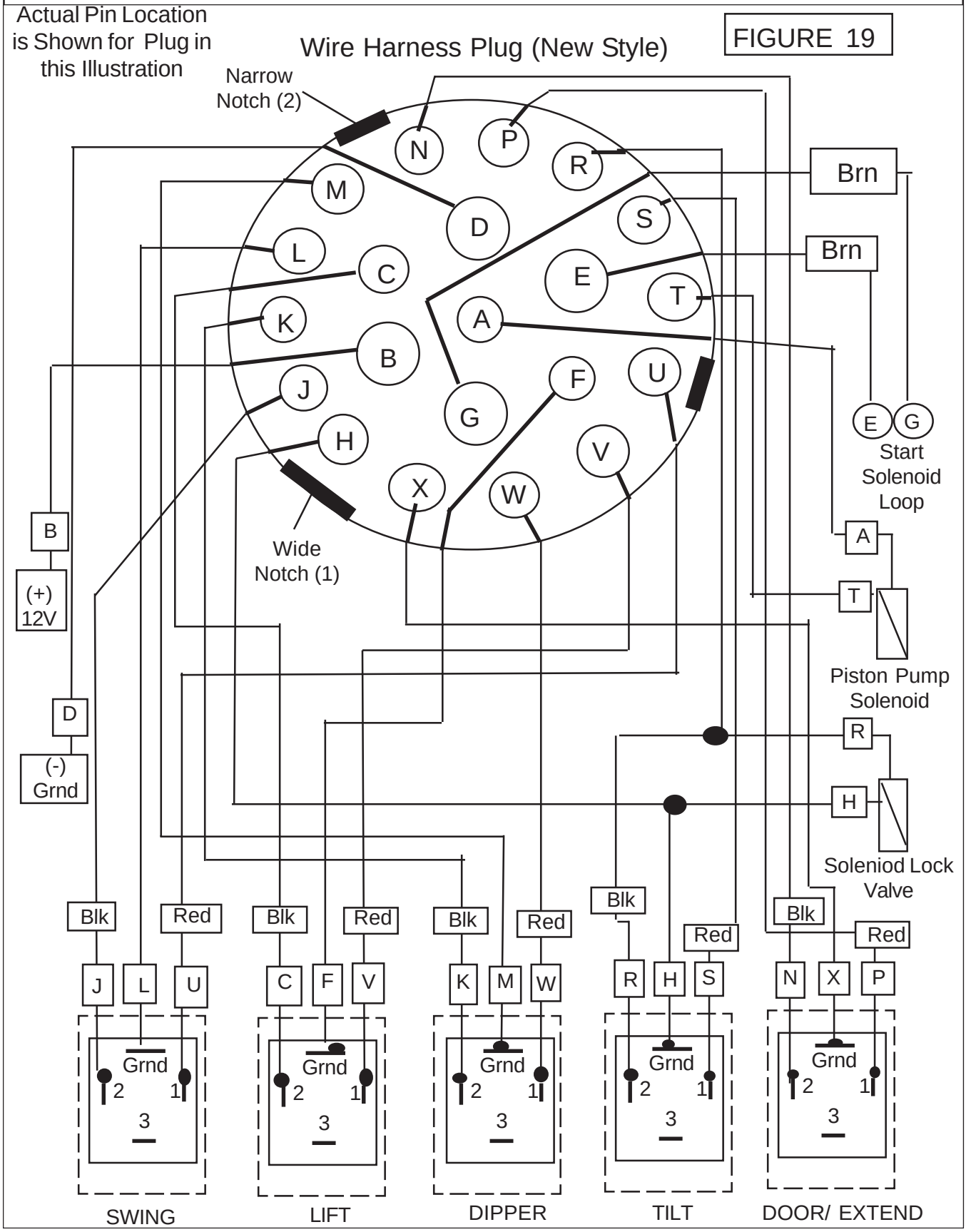
Wire Harness (Joystick Console Plug to Valve)



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Wire Harness Schematic

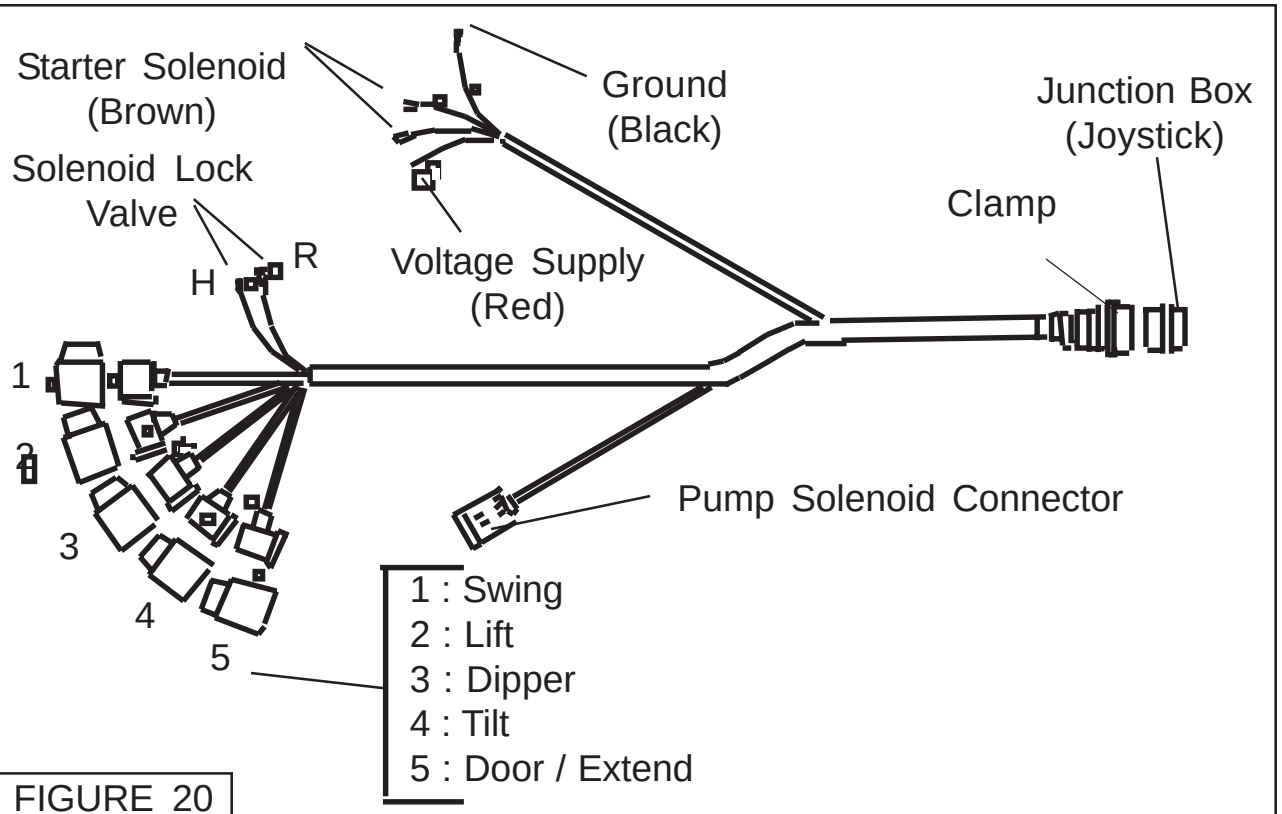

FIGURE 20

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Section 9

A-BOOM

New Holland
TB-100 & TB-110
ROPS - 4 Wheel Drive Tractor

Head Installation (Optional Heads)

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Mower Head Installation -Optional

Attaching Flail-Axe Head:

1. With a Forklift or Hoist, lower the boom Weldment on the Flail Axe Head. Align the boom Weldment with the Flail Axe Head Hitch Post. Insert special bolts (item 1 p/n 02956972 and item 2 p/n 00752405) into Boom Weldment and Hitch Post. Attach nuts (item 3 p/n 02030300 and item 4 p/n 00037200) to bolt and tighten securely. *Note: Additional support may be needed at the end of the Boom to aid in installation.*

2. Install Hoses p/n 02972573 (#1) and p/n 02972573 (#2) in positions shown. Fully extend and retract tilt cylinder and insure hoses do not bind or kink then secure fittings. Tighten any leaking Hydraulic Fittings. If fluid still leaks, loosen the fitting, apply a pipe thread compound to the end threads and tighten. Care must be taken when tightening can cause the fittings to crack and require replacement fittings. Use recommended hose end and torque values found in chart on page 22.

3. Warning, Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before unhooking hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard to search for leaks. If any fluid under pressure is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene may result.

4. Hoses should not interfere with mower operation such as being pinched, kinked or entering the cutter housing. The hoses may be twisted slightly. To hold them up and/or inward tighten the fitting once the proper location is found.

*** Note the position of hoses and fittings. It is important that they are installed as shown.**

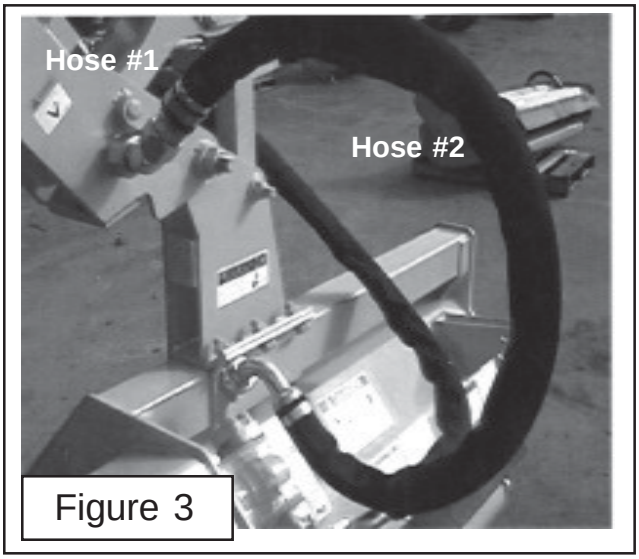

Figure 3

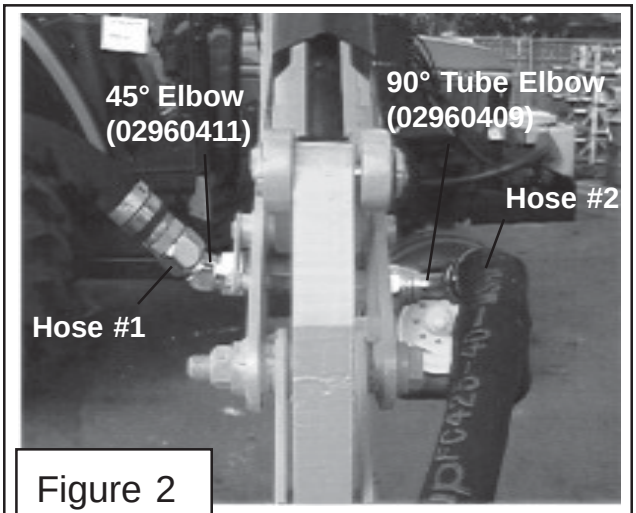

Figure 2

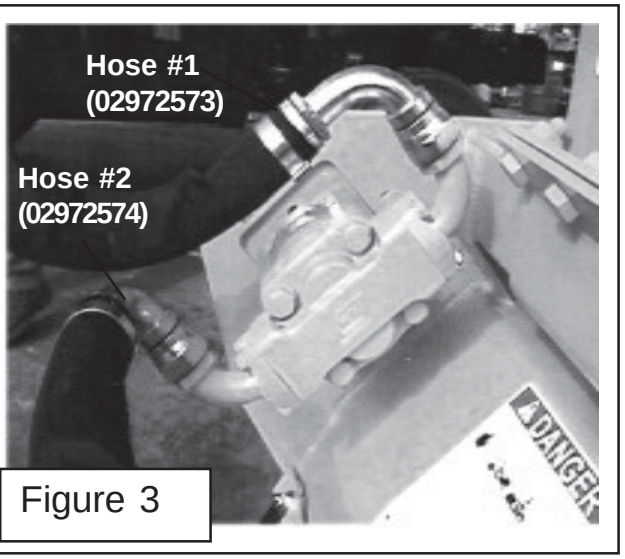

Figure 3

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Mower Head Installation - Optional

Attaching Flail Head:

1. With a Forklift or Hoist, lower the boom Weldment on the Flail Head. Align the boom Weldment with the Mower Head Hitch Post. Insert special bolts (item 1 p/n 02956972 and item 2 p/n 00752405) into Boom Weldment and Hitch Post. Attach nuts (item 3 p/n 02030300 and item 4 p/n 00037200) to bolt and tighten securely. *Note: Additional support may be needed at the end of the Boom to aid in installation.*

2. Install Hoses Female - JX in position as shown, hand tighten. DO NOT start Tractor until after filling Hydraulic Tank with Oil (See Filling Hydraulic Tank Section). Fully extend and retract tilt cylinder and insure hoses do not bind or kink then secure fittings. Tighten any leaking Hydraulic Fittings. If fluid still leaks, loosen the fitting, apply a pipe thread compound to the end threads and tighten (Do not allow Thread compound to get into Hydraulic system). Care must be taken when tightening, over tightening can cause the fittings to crack and require replacement fittings. Use recommened hose end and torque values found in chart in operators manual.

3. Warning, Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before unhooking hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and mozzles which eject fluids under high pressure. Use a piece of cardboard to search for leaks. If any fluid under pressure is injected into the skin, it must be surgically removed withing a few hours by a doctor familiar with this type injury or gangrene may result.

4. Hoses should not interfere with mower operation such as being pinched, kinked or entering the cutter housing. The hoses may be twisted slightly. To hold them up and/or inward tighten the fitting once the proper location is found.

*** Note the position of hoses and fittings. It is important that they are installed as shown.**

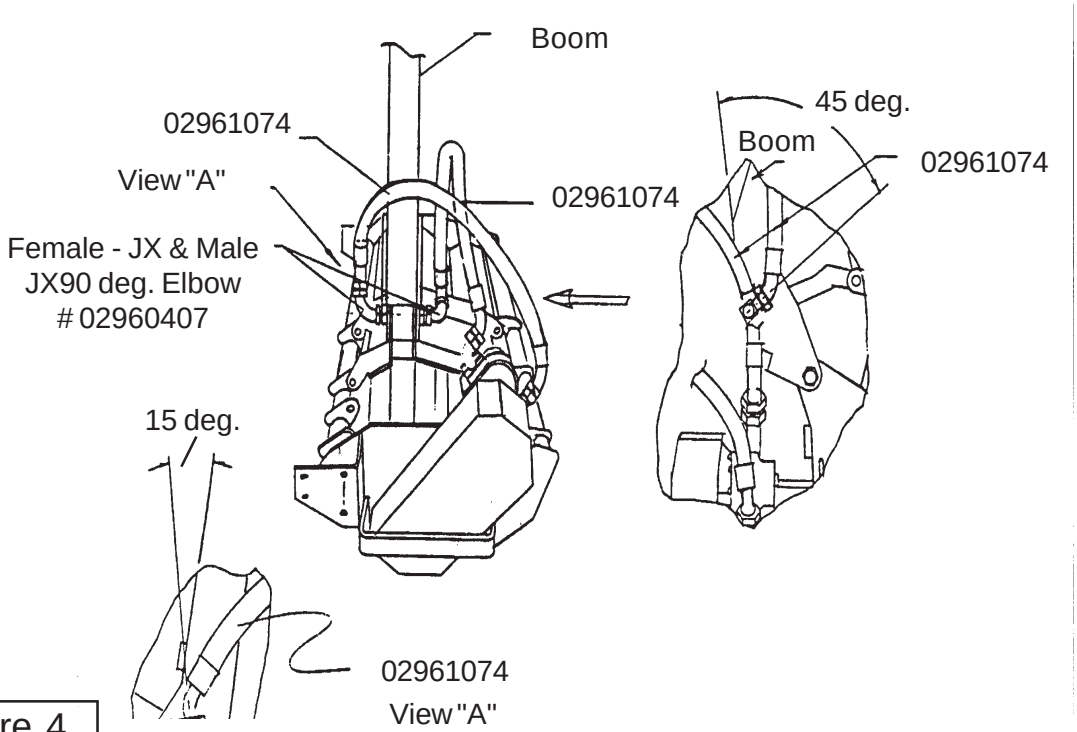

Figure 4

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Mower Head Installation - Optional

Attaching Ditcher Head:

1. With a forklift or hoist, lower the Boom Weldment down in the Ditcher Head. Align the Boom Weldment with the Ditcher Head Hitch Post together. Insert special pins p/n 02958929 into Boom Weldment and Hitch Post. Attach with washer P/N 00749185 and roll pin P/N 00610600. ***NOTE****: Additional support may be needed at the end of the Boom to aid in installation*. **(See Figure 5).**

2. Attach Hydraulic Hoses as illustrated **(See Figure 69)**. Tighten all Hydraulic Fittings. Care must be taken when tightening Hydraulic Fittings. Over tightening can cause the fittings to crack and require replacement. Use recommended hose end torque values found in chart in operators manual..

3. The motor for the Ditcher will operate in both directions. It is important to plumb the motor so that it rotates to deposit the spoil properly. The direction of rotation can be observed by standing behind the Ditcher Head, beside the right rear tire. If the Ditcher rotates 'clockwise' it is plumbed for forward rotation and the spoil will be deposited away from the tractor. If the Ditcher is the reverse design then the proper rotation is counterclockwise when observed from the rear. Do Not try to reverse Ditcher from Rotation it was designed for, it will not work. The Forward and reverse Rotation Models do not use the same Blade Assembly.

4. **Note:** The two hoses (P/N 02961054) connecting the main boom to dipper arm are used to connect the Ditcher motor. The 90 degree fittings attach to the fittings on the main boom and the straight fittings attach to the 90 degree fittings on the hydraulic motor. See **Figure 69** below.

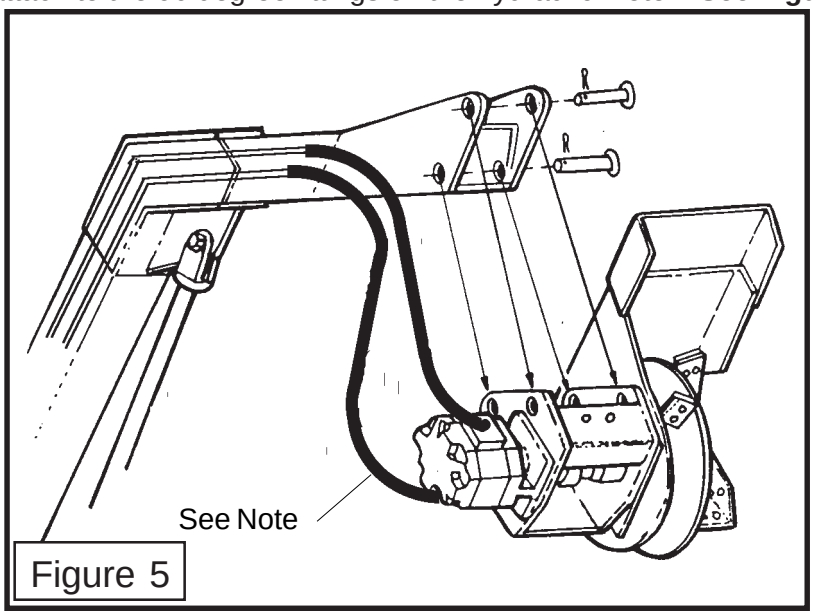

Figure 5

WARNING Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before unhooking hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard to search for leaks. If ANY fluid under pressure is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene may result.

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Mower Head Installation - Optional

Attaching Timber Cat Head:

1. Attach the Timber Cat Head to the boom using the pins included with the head. Be careful not to damage the pivot bushings in the boom when inserting the pins. Attach the 90° elbow (Item 1) to the front port of the boom and position it so that it faces down. Attach the 90° end of the return hose (P/N 02973125) to the fitting and attach the straight end to the 90° fitting (Item 2) on the flow divider (if it is not already connected). Attach the pressure hose (P/N 02973124) to the rear port of the boom and attach the other end to the 90° elbow (Item 3) on the flow divider (if it is not already attached). **(See Figure 6.)**

2. Be sure the hoses are routed as shown in the figure and securely tighten all connections. Stop here and go to Hydraulic Oil Tank fill section, DO NOT Start Tractor until Hydraulic tank has been filled. Start tractor and move the head tilt through its motions and check for excessive twisting and bending. It may require many attempts to obtain the optimum hose connection position. Once achieved, start the tractor and position the head in a safe area for operation, if necessary, barricade the head to prevent any contact while it is being operated. **This unit is dangerous - STAY AWAY - anytime the tractor is in operation!** Turn on the head and bring the tractor engine up to normal operating speed (540 PTO RPM). Tighten any leaking hydraulic fittings. Caution, too much tightening can cause the fittings to crack and require replacement. Use recommended hose end torque valves found in the Maintenance Section.

WARNING Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before unhooking hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard to search for leaks. If ANY fluid under pressure is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene may result.

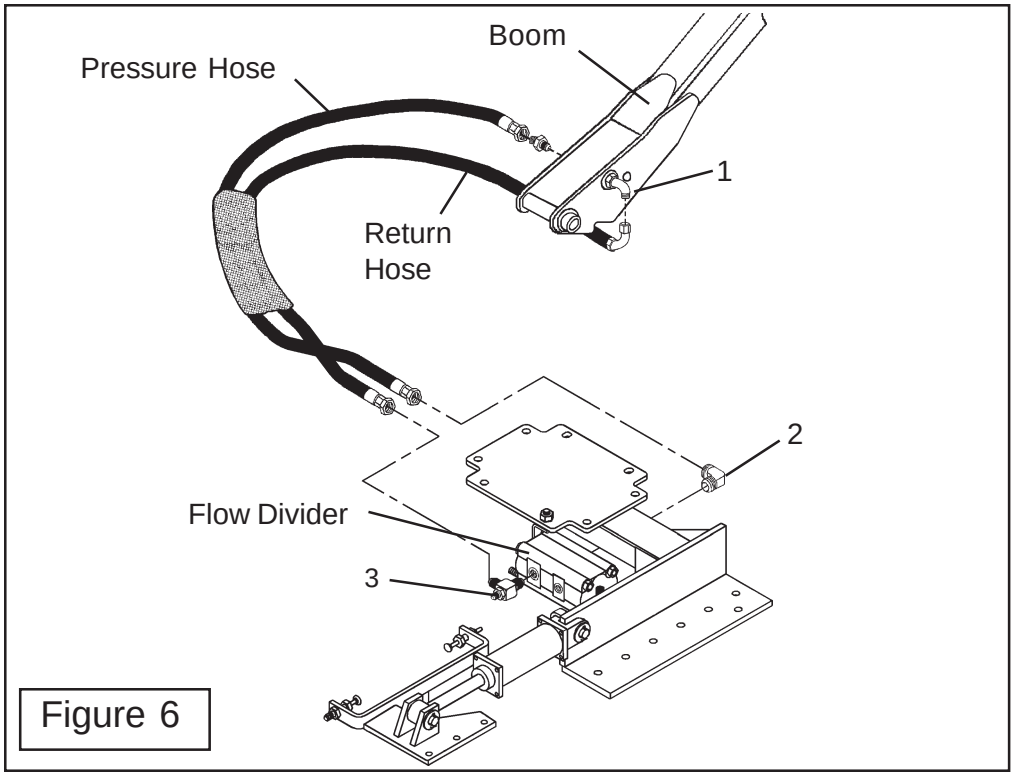

Figure 6

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Mower Head Installation - Optional

X-Frame Square Head Attachment:

1. With a forklift or hoist, lower the Boom Weldment down on the X-Frame Square Head. Align the Boom Weldment with the X-Frame Square Head Hitch Post. Insert special bolts 1" x 9" (item 1) and item 2, 3/4" x 5-1/2" into Boom Weldment and Hitch Post. Attach nuts 1" (item 3) and item 4, 3/4" to bolt and tighten securely. ***Note:*** *Additional support may be needed at the end of the Boom to aid in installation.* **Figure 7.**

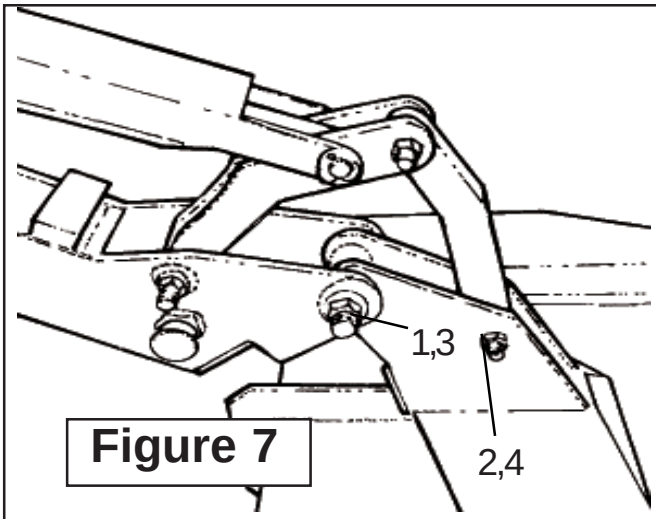

Figure 7

2. Connect the Pivot Hitch to Mower as shown in Parts and Assembly Manuals. (See Figure 8)

3. Connect Hoses to Mower Head. Connect Hoses as shown (See Figure 8 & 9) Boom to Mowers , Do Not Start tractor until the hydraulic Tank has been filled, Go to Hydraulic Tank Fill Section now. After Oil has been fill Start Tractor and run the Hydraulic System through its functions as outlined in the Oil Fill Section. NEVER Start Tractor without Oil in system (Oil level to Sight Glass) it will damage the Hydraulic System if you do.

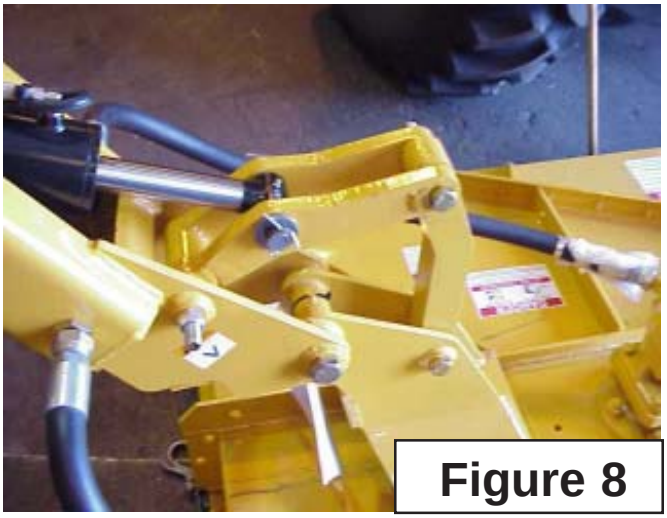
Figure 8

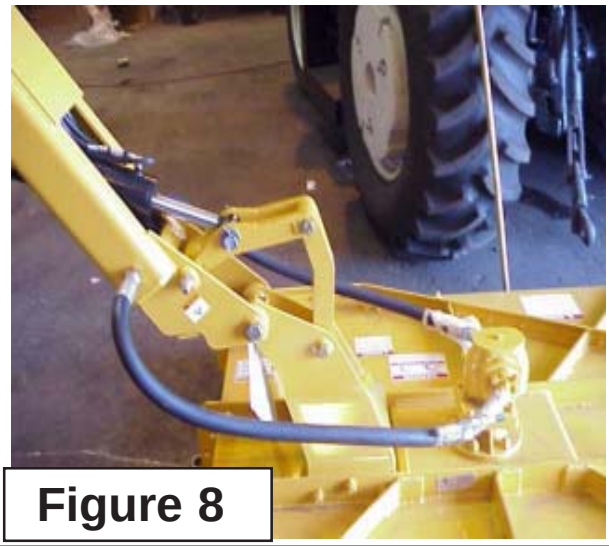
Figure 8

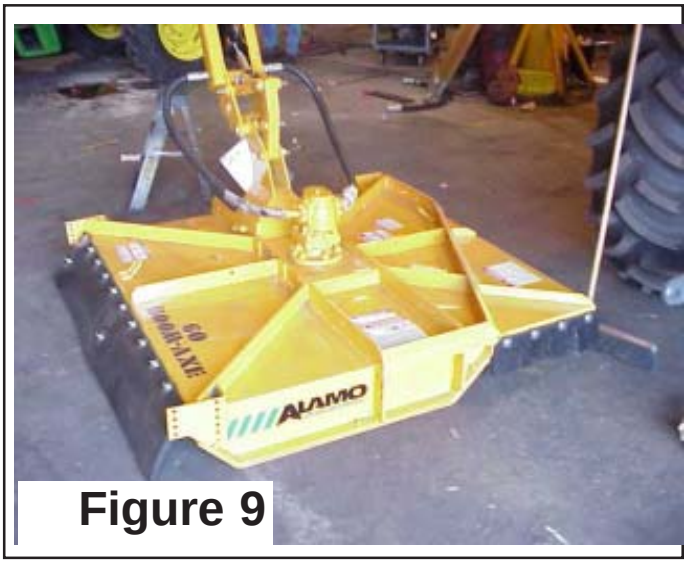

Figure 9

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Section 10

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Fill Hydraulic Tank

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Fill Hydraulic Tank

Fill Hydraulic Tank with Oil:

1. DO NOT START TRACTOR until you have filled Hydraulic Oil Tank to a level as shown in Sight Glass gauge and fill the Suction Hose to Pump with Oil.

2. **Remove Filler Cap**. Remove Filler cap only when ready to fill hydraulic Tank with Oil. Do Not leave the Cap off and the system Open, always keep system closed when possible. Avoid any oil contamination. **(See Figure 1)**

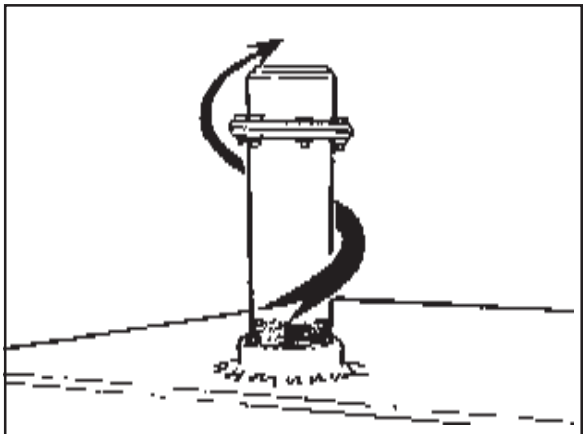

FIGURE 1

3. **Avoid Hydraulic Contamination** by filtering the Hydraulic Oil while filling the Hydraulic Tank. Filter buggies or carts are commercially available for Hydraulic system cleanup and Oil transfer. These consist of high capacity filter, a Circulating Pump, a Drive Motor and hoses for connecting to the units hydraulic system. When adding Oil always use Clean new Oil from a sealed container, If you suspect the Oil of being contaminated don't use it. (See Figure 2 & 3). It is best to always use a filter system when adding even new oil.

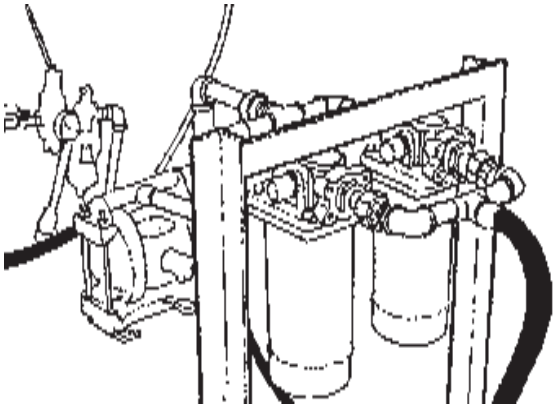

FIGURE 2

4. **When adding Oil in the field** keeping it clean is critical, do not use dirty funnels or hoses. Do Not open Hydraulic tank or any containers unless the openings have been cleaned first. The outside of the containers must be clean. If a windy dusty day do not fill and allow dirt to blow into oil. Always add Oil using a pump system with at least a 10 Micron filter system. (See Figure 4)

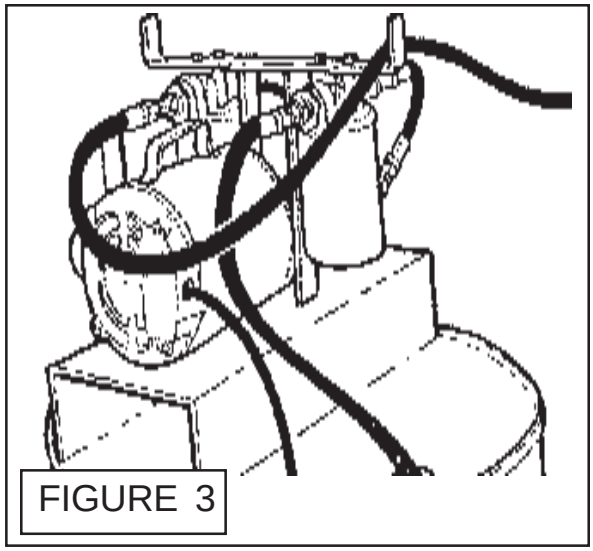

FIGURE 3

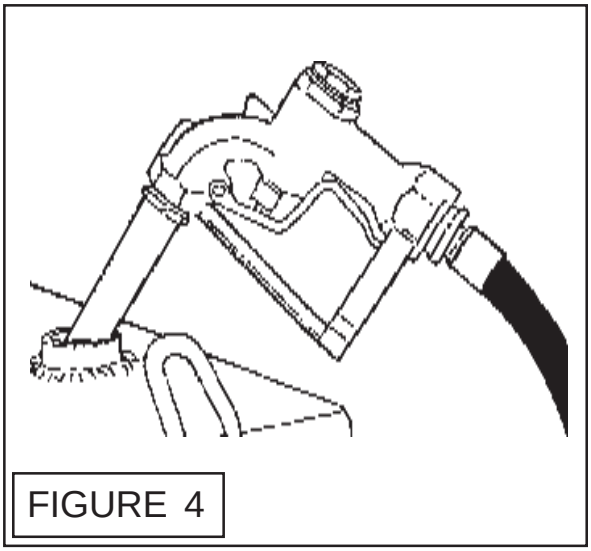

FIGURE 4

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Fill Hydraulic Tank

Fill Hydraulic Tank with Oil:

5. **Fill Tank.** Fill the Hydraulic Tank **(See Figure 4)** Fill tank till the Oil is visible in the sight Gauge **(See Figure 5 & 8).** This will fill tank for the start but it will have to filled again later. Read Step 6 a must.

6. **Fill Suction Hose with Oil.**

***This is an important step that must be done*.** Remove the Suction Hose at the Tank (See Figure 6) and fill the hose with clean oil, THIS IS A MUST DO. The Suction Hose must be filled with Oil to prevent Dry start up of Pump. Dry start up of PUMP will damage the Pump. After filling suction Hose reinstall it and tighten down Hose Clamp. (See Figure 7)

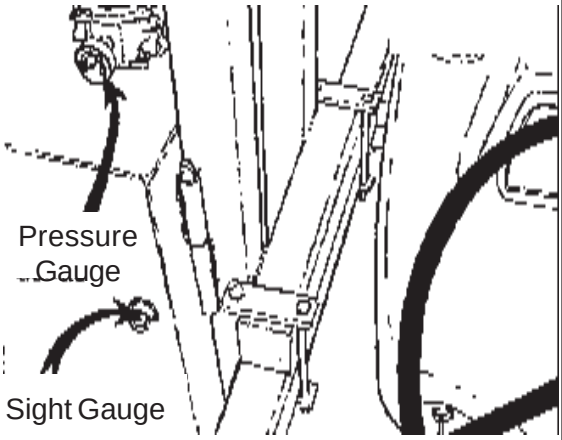

FIGURE 5

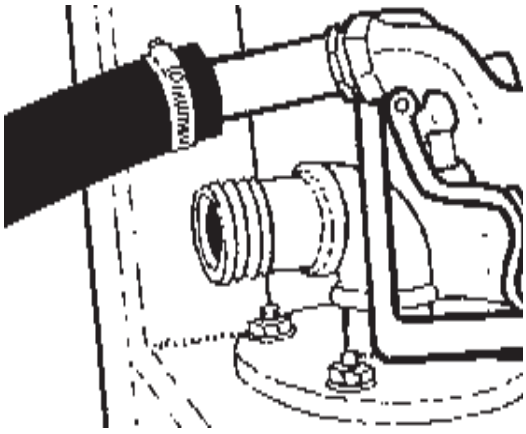

FIGURE 6

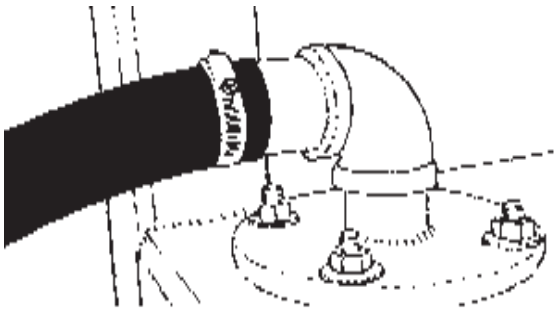

FIGURE 7

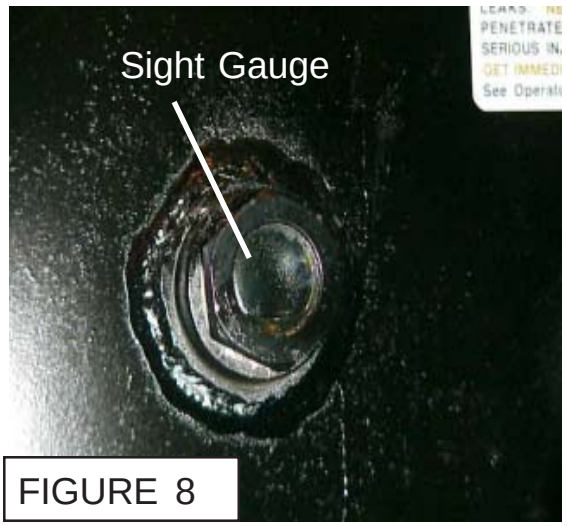

FIGURE 8

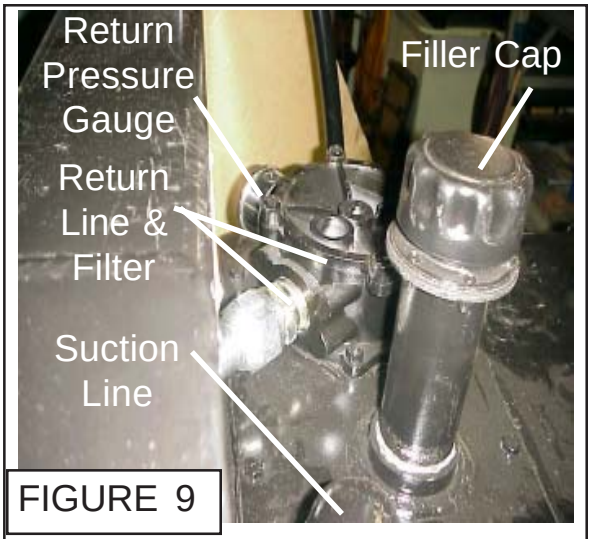

FIGURE 9

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NOTES

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Section 11

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Hydraulic Start-Up Procedures

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Hydraulic Start-Up Procedures

Start-up Instructions:

1. Read all safety instructions. Decals on the A-Boom warn you of particular and multiple Hazards. Many decals are attached close to part of the A-Boom where there is a possible hazard. Read and make sure you understand the safety messages before you operate the A-Boom. Keep all decals clean and readable. Replace lost or damaged decals.

2. Before operating, read all the safety and operating instructions in the Operator's Manuals for both the tractor and mower.

3. When the hydraulic tank has been filled, The Pump Suction Hose filled with Hydraulic Oil and the mower unit (Head) properly assembled, the unit should be started up. NOTE: Make sure that no materials, tools, or jacks have been left under the mower head. Make sure the front and rear of the mower are properly guarded to prevent any foreign objects from being thrown by the mower. All other workers should be kept a safe distance from the unit before the mower is started.

4. Start the tractor and idle at a slow engine speed until oil is being pumped. Check for any leaks, this is easiest with an assistant watching for leaks. Do not run if Oil is leaking.

5. Bleed the air out of all hydraulic cylinders one at a time by extending them to their full length. DO NOT SWING THE BOOM till last and you have gone to the Rest Stop and Support Section for instructions.

6. Engage the Cutter Control Valve at low engine rpm and run the mower slowly for a short period until all air is removed from the hoses. Keep all persons WELL CLEAR of mower since Blades can THROW OBJECTS with great velocity for a considerable distance! KEEP CLEAR!

7. Run the mower at a low tractor engine speed until the mower Hydraulic System gets the Air out off it. Operate at an engine speed that keeps the filter restriction gauge reading in the "Green Zone". With the hydraulic warm, bring the tractor speed up to normal operating speed. If the filter gauge reads in the red zone, stop the unit, release all hydraulic oil pressure, and Check the filter element in the tank mounted filter or any Hose that may be kinked. Restart the tractor and mower unit and again check the filter gauge (oil must still be hot).

8. If the filter gauge reads in the red when first started and does not drop as oil warms, then something is wrong, contaminants have been introduced into the hydraulic system or some thing connected wrong. You may need to repeat previous steps again until the gauge reads in the green.

9. Check the fluid level in the Hydraulic Tank and add oil if required. As the air has been forced out of the Cylinders and Hoses, it goes into the Hydraulic Tank and reduces the oil level. The Hydraulic Oil must be at least at the level of the Sight Gauge on the side of the Tank.

10. Basic trouble shooting guide for first start up.

- **A.** Electrical solenoid valve does not work - check wiring, possible faulty switch, possible faulty solenoid.
- **B.** Pump is making noise - check for obstruction in suction hose and tank suction assembly, check alignment of pump driveshaft.
- **C.** Cylinders will not raise - hoses from cylinder incorrectly connected to valve bank, pump not suppling oil.
- **D.** Cylinder rises slowly - hoses from cylinder incorrectly connected to valve bank, work port reliefs on valve bank set too low - replace as required.
- **E.** Filter reads in red - viscosity of oil too high - wait until oil heats up before checking filter gauge. If gauge reads in red even after unit is hot, then the filter must be replaced.

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Hydraulic Start-Up Procedures

Post-Assembly Check List:

1. ☐ Is oil level in the tank even with the sight gauge on the tank?

2. ☐ Has the proper oil been used in the system? Proper oil is Universal Tractor Hydraulic.

3. ☐ Does Boom machine movement match operation decal - Swing, Lift, Dipper, Tilt?

4. ☐ Is control valve free and does it not stick?

5. ☐ Are all hoses tight and do not leak?

6. ☐ Are all decals in place? See Safety Section in Manual for decal description and placement.

7. ☐ Does tractor pass Alamo Group Mower Stability Test?

8. ☐ Have all grease points been adequately greased?

9. ☐ Are all bolts tight?

10. ☐ Have all hoses been properly routed so that hoses do not kink or bend when boom is articulated through all motions?

11. ☐ Does starter lockout device work correctly on machine? Tractor should not start if mower switch is on.

12. ☐ Is swing cylinder pinned in correct hole? On rear-swing type machine cylinder should be pinned to outside hole. On front-swing type machine cylinder should be pinned in inside hole.

13. ☐ Is machine equipped with proper operator protection? Must have cage or cage panels.

14. ☐ Does mower operate when on/off switch is on? Stop when switch is off?

15. ☐ Is head rotation correct? On rotary heads (looking from the top of the deck) rotation should be clockwise so that debris will be thrown away from the tractor. On flails, rotation can be forward or reverse, but forward rotation is standard.

16. ☐ If furnishing a square head, are spindle housing bolts tight? Is spindle assembly tight? Are bolts that hold blade bar to spindle tight?

17. ☐ Does head operate smoothly at normal operating speed? Head should not vibrate excessively.

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NOTES

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Section 12

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Boom Rest Plate
&
Boom Swing Stop
Installation

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Boom Rest Plate & Hook Installation

Boom Rest Plate installation:

1. **Boom rest Mounted**. Boom rest should already be mounted and tighten down to Tractor from earlier assembly section. At the top of the Boom rest there will be a Boom rest Plate bolted to Boom rest, this should be mounted out to the Far right side.**. (See Figure 1)**

2. **Boom Rest Weld on Transport Plate.** There is a Boom Rest Hook plate tied to the Top Boom Hoses for shipment and cannot be mounted until the Assembly of this Unit is finished. Remove this plate now, it is tied to Boom hoses with the 2 plastic ties. (Do Not Weld on yet, wait until instructed to do so). **(See Figure 2).**

3. **Swinging Boom.** Extreme caution must be used when swinging Boom, There is NO BOOM STOP INSTALLED and can not be installed until later. Slowly swing boom Up and back watching the Cab so as not to hit it with the Boom. Do not raise Boom higher than the inner stop of Boom rest plate bolted to the top of the Boom rest. Swing Boom till it is aligned in Boom Rest. The Head should be in the folded position as you lower Boom **(See Figure 3).**

4. **Slowly lower the Boom** down into Boom Rest. You will need to take measurement on the Boom **(See Figure 4)** here and Mark the Boom so you can weld on the stop plate to Boom. The Height of the Boom when in the Boom Rest should not exceed 12 ft. 9 in. max. **(See Figure 4).**

FIGURE 1

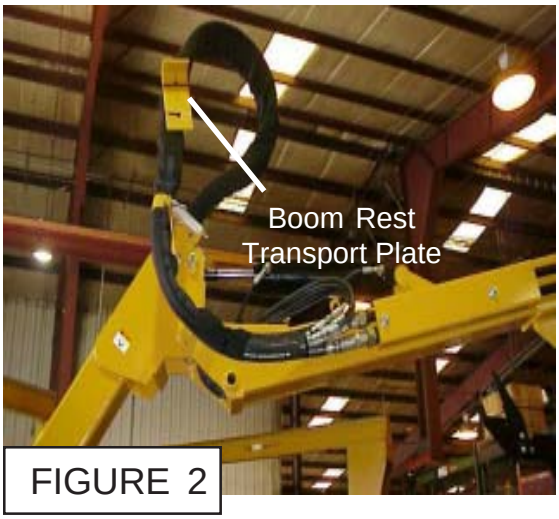

FIGURE 2

FIGURE 3

FIGURE 4

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Boom Rest Plate & Hook Installation

Boom Rest Plate installation:

5. **<u>Marking Boom</u>**. Use a Black (or color desired) to mark the Boom, Make a Line on the Boom parallel with the Bolt on Boom Rest across the Boom, **(See Figure 5 & 6)**. This line will be used to align the Boom Plate Rest Hook for welding to Boom.

6. **<u>Clamp Boom Rest Hook to Boom.</u>** Align Boom Rest Hook with the line on Boom and clamp with large C-Clamp (See Figure 7). Remove Paint if possible **(See Figure 8).** Weld both sides of the Boom Rest Hook to Boom **(See Figure 9)** Move Boom back into Boom rest and check for fit.

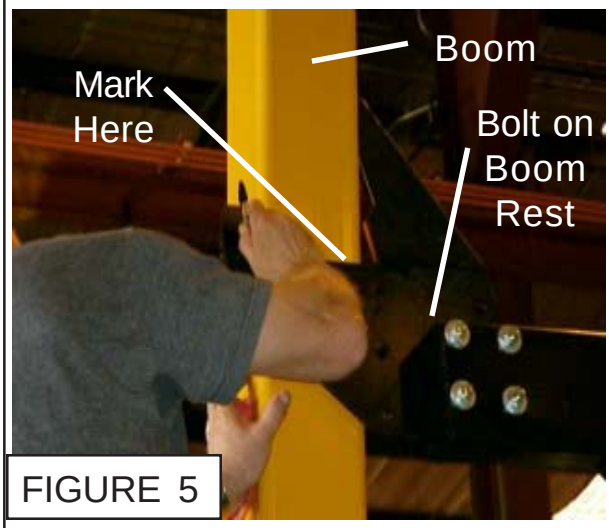

FIGURE 5

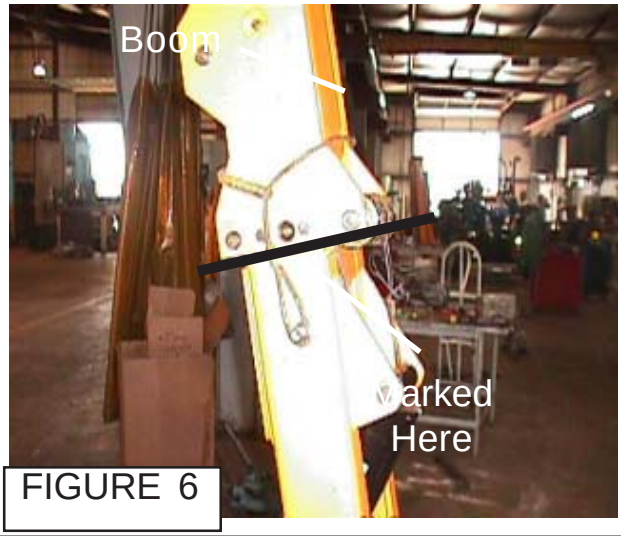

FIGURE 6

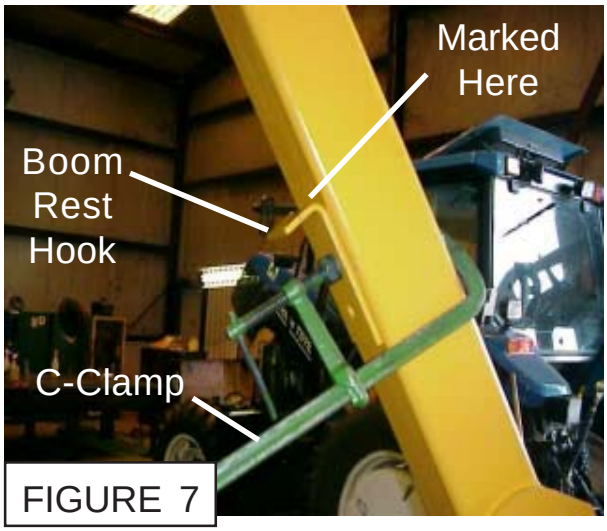

FIGURE 7

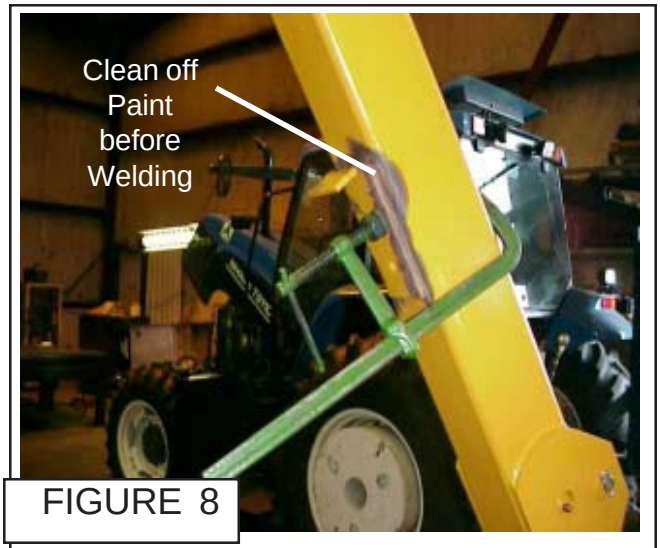

FIGURE 8

FIGURE 9

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Boom Swing Stop Installation

Boom Swing Stop installation:

1. **<u>Position Boom Swing Stop Lug</u>.** Boom Swing Stop Log is used to prevent Boom from swinging back to far and hitting Cab. With Boom folded and resting on Boom Hook in Boom Rest Plate. Position the Boom Swing Stop on King Post Mount behind the Lift Cylinder Lug. (See Figure 10) This can be difficult to hold here while you tack it, it is important that it be square and touch the Cylinder lug as shown. (See Figure 10).

2. **<u>Tack Weld Boom Swing Stop Lug.</u>** Tack Weld the Boom Swing Stop Lug to the King Post Mount (DO Not Weld to the King Post). (See Figure 11) Tack Weld the Lug secure enough that the Boom can be swung out to the side, this gives you more room to weld on the Boom Swing Stop Lug completely (See Figure 12)

3. **<u>Weld Boom Swing Stop Lug Solid.</u>** After the Boom is swung out 90 deg. from tractor completely weld the Stop Lug to the King Post Mount on High frame (See Figure 12). Slowly swing th Boom inward to the Boom rest and make sure that Boom cannot be swung in so far that it will hit the cab of tractor. This is a very critical step and must be done with extreme caution so as not to damage Cab of tractor.

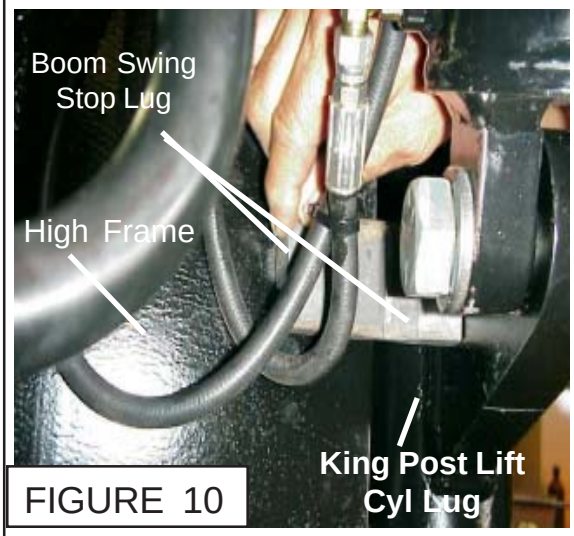

FIGURE 10

FIGURE 11

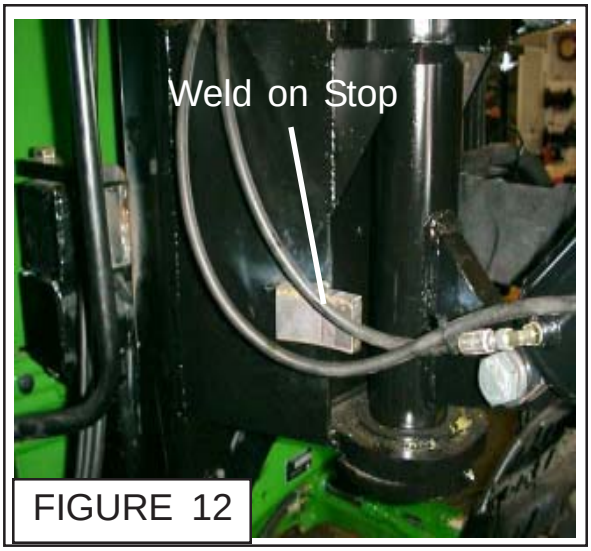

FIGURE 12

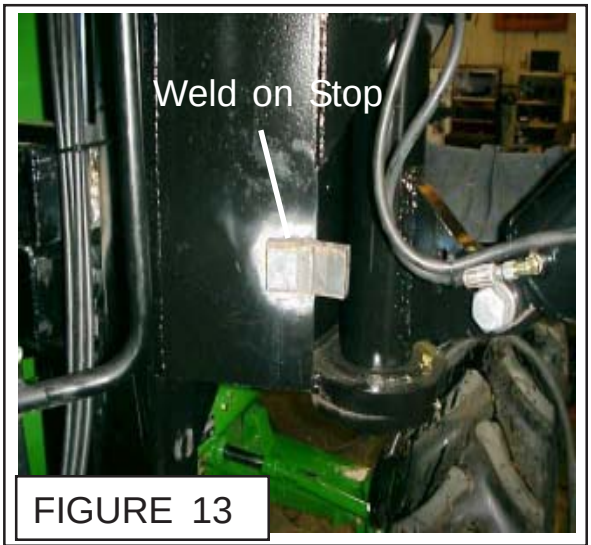

FIGURE 13

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Boom Swing Stop Installation

Boom Swing Stop installation: (continued)

4. **Front Boom Swing Stop**. BoomSwing Stop Log is used to prevent Boom from swinging to far to the front and hitting swing cylinder or other components. With Boom folded and resting on Boom Hook in Boom Rest Plate. Locate the bolt on front boom stop (See Figure 14). The stop will bolt on the under side below the swing cylinder and retained with two bolts.

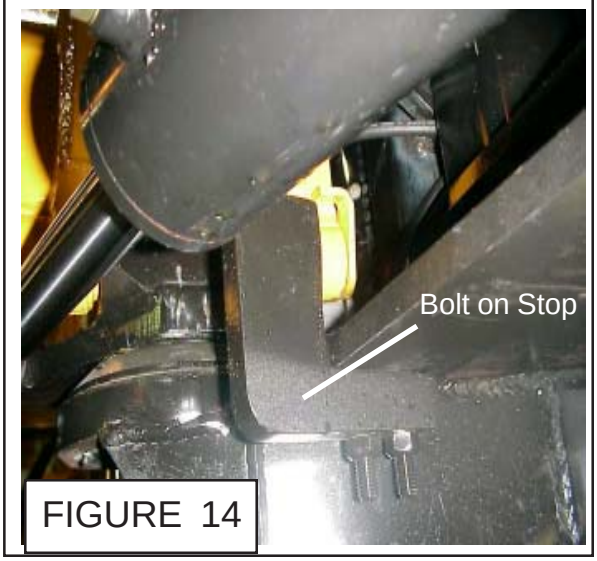

FIGURE 14

Inspect King Pin Bearing Adjusting Nut:

1. **King Post Bearing Adjusting Nut**. The King post bearing adjusting nut will already be assembled to the high frame when you receive the mount kit. This should always be inspected to make certain that the locking tabs are in place on the nut and that non of the parts are missing. (See Figure 15)

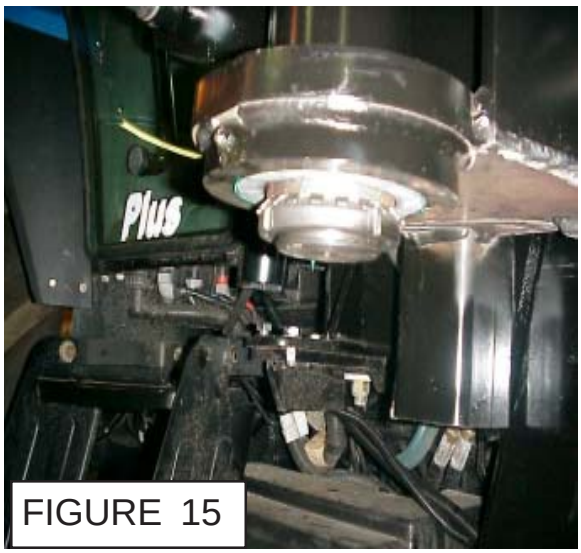

FIGURE 15

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NOTES

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Section 13

A-BOOM

New Holland
TB-100 & TB-110
ROPS / 4 Wheel Drive Tractor

Mount Kit Components Identification

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Mount Kit Component Identification

New Holland TB100/TB110 ROPS / 2 & 4 wd

As Of:

10-06-03

12.4-24 Max Front Tire
18.4-30 Max Rear Tire

Mount Kits:

A-Boom Mt Kit (ROPS Only) ……..... 02980393
A-Boom Mt Kit (ROPS Only w/Joystick) ……..... 02981970
A-Boom Mt Kit (ROPS w/Canopy) ……..…. 02980340
28' A-Boom Mt Kit (ROPS w/Canopy) ……..…. 02982003

Options:

Aluminum Canopy (Not FOPS Rated) ……..…….....02980168
Rear Screen Kit ……..... 02980522
Pump Guard Kit ……..... 02980880

Restrictions:

1. Must be ordered with a high frame due to high opening hood design.

2. For tractors equipped with a 23' boom, a minimum of 1400# of wheel weight must be added in addition to filling the left rear tire with calcium chloride.

3. The canopy cage is designed for use with canopies purchased from The Perry Co. Reference part #02980168 listed above. Other canopy brands may require modifications to the cage. Such alterations must be completed at the dealer/customer's expense.

4. The cage in this mount kit includes a full Lexan shield. See photos below.

5. Due to the required front mount change, the pump guard option will only retrofit to mount kits produced after April 3, 2004. Dealer/customer responsible for modifications to units shipped prior to that date.

6. Joystick or direct valve control is optional. The joystick will reguire components that are not included in other mount kits and direct valve handle control will include components that are not in the joystick mount kit.

Notice: Mounting restrictions may change as designs of tractor model changes and/or design of the A-boom is updated or changed. Listing in this assembly manual is current as of the print date.

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Mount Kit Component Identification

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New Holland TB-100 & TB-110 ROPS ONLY / 2 & 4 wd (W/ Manual Valve Control Handles)

IMPORTANT NOTICE: The following Part / Assembly Numbers are for reference and should not be ordered as replacement parts, unless all the components in that assembly are wanted. These will break down to bills of material of the components. Some of numbers listed are NOT individual Parts but complete assemblies and/or box of assemblies. Check before ordering.

02980393 A-Boom Mount Kit - (NH TB-100 & TB-110 ROPS 2 & 4 WD) Consist of the Following Items

Item	Part No.	Qty.	Description
1	02961143	1	BOOM REST WELDMENT
2	02970118	1	FRAME RAIL SUPPORT KIT
3	02980341	1	COMPONENT BOX
4	02980343	1	RAIL WELDMENT, LH
5	02980344	1	RAIL WELDMENT, RH
6	02980385	1	LEXAN CAGE KIT, NH TB ROPS

(Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles)

02980341 Component Box: Consist of the following Item No.

Item	Part No.	Qty	Description
1	00679800	1	PIGTAIL BRACKET
2	02014500	2	MOUNTING TUBE
3	02026200	2	HOSE CLAMP, 1-5/16" TO 2-1/ 4"
4	02512800	1	SUCT/HOSE, SUCTION, #24 X 84" LG
5	02513000	1	HOSE, #8 - 8FJX - 8FJX90 - 108" LG
6	02702900	1	HUB
7	02725900	2	SUPPORT PLATE
8	02726700	1	AXLE MOUNT STRAP
9	02957635	1	SPLINE COUPLER, 7/8" X 13-SPLINES
10	02961826	1	FRONT PUMP ASY, TANDEM
11	02966404	1	SPACER, MACHINED
12	02966909	1	DRAWING, ADJUSTABLE BOOM REST PLATE
13	02971538	1	PLATE, BOOM REST
14	02959770	3	HOSE SUPPORT RING
15	02960409	1	ADAPTER TUBE, ELBOW 20MJ - 20FJX 90°
16	02980342	1	BOLT BAG ASY.
17	02980349	1	PLATE, PUMP MOUNT
18	106733	1	DRIVESHAFT, 14.06" LG (7/8X7/8 W/13 SPLINE)
19	02975894	1	HOSE, #20 - 20FJX - 20FJX90 - 156" LG
20	02961096	1	HOSE, #20 - 20FJX - 20FJX - 56" LG
21	02980885	1	FRONT MOUNT, LH
22	02980886	1	FRONT MOUNT, RH

Component Box P/N 02980341 is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles)

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Component ID (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD)

02980342 Bolt Bag: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	00000200	4	NUT, HEX 3/4"-NC PL
2	00001200	4	NUT, HEX 1/2"-NC PL
3	00001300	6	LOCKWASHER, 1/2"
4	00002700	8	FLATWASHER, 1/2" PL STD
5	00003901	20	LOCKWASHER, 3/4" PL
6	00022200	4	LOCKWASHER, 7/16" PL
7	00037200	8	LOCKNUT, TOPLOCK 3/4"-
8	02758400	8	BOLT, HEX HEAD 3/4"-NC X 9" PL GR8
9	02892000	2	BOLT, HEX HEAD 1/2"-13NC x 1-1/2" PL GR8
10	02918600	16	BOLT, HEX HEAD 3/4"-10NC X 2" PL GR8
11	02956765	4	BOLT, HEX HEAD 1/2"-NC X 4-1/2" PL GR8
12	02957039	4	BOLT, HEX HEAD 3/4"-NC X 10-1/2" PL GR8
13	02959344	4	BOLT, SCKT HD CNTER SUNK HD 3/4"-NC X 1-3/4" PL GR8
14	02965355	4	BOLT, HEX HEAD 7/16" NC X 3-1/2" PL GR8

Bolt Bag P/N 02980342 is in Component Box P/N 02980341 which is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles)

02970118 Frame Rail Support Kit: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	02970086	1	TUBE, CROSSMEMBER RAIL STIFFNER
2	02970115	2	WELDMENT,RAIL STIFFNER
3	5JRC1680	4	NUT, TOPLOCK 1"-8NC PL
4	02980513	4	BOLT, HEX HEAD 1" -8NC X 4-1/4" LG PL GR8

Frame Rail Support Kit P/N 02970118 is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles)

02980385 Lexan Cage Kit: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	02980391	1	ROPS CAGE ASY. W/ LEXAN
	02980386	1	CAGE WELDMENT ONLY (ROPS)
	02959924	16	LOCKNUT, TOPLOCK 1/4"-NC PLB
	10058000	6	BOLT, HEX HEAD 1/4"-NC X 1" PL GR5
	10070000	10	BOLT, HEX HEAD 1/4"-NC X 2-1/2" PL GR5
	02980086	32	SEALING WASHER, NEOPRENE FACE
	02980362	1	LEXAN SHEET, UPPER
	02979941	1	LEXAN SHEET, LOWER
2	02980365	3	U-BOLT, 1/2"-13 X 5" X 3-1/2"
3	00001800	6	LOCKNUT, TOPLOCK 1/2"-NC PLB
4	00002700	8	FLATWASHER,1/2" PL STD
5	00001300	2	LOCKWASHER, 1/2"
6	03101254	2	BOLT, HEX HEAD M12-P1.25 X 25mm PL GR10.9

Lexan Cage Kit P/N 02980385 is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles)

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Component ID (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD)

New Holland TB-100 & TB-110 ROPS ONLY / 2 & 4 wd (W/ Joystick Valve Control)

IMPORTANT NOTICE: The following Part / Assembly Numbers are for reference and should not be ordered as replacement parts, unless all the components in that assembly are wanted. These will break down to bills of material of the components. Some of numbers listed are NOT individual Parts but complete assemblies and/or box of assemblies. Check before ordering.

02981970 A-Boom Mount Kit - (NH TB-100 & TB-110 ROPS 2 & 4 WD) Consist of the Following Items

Item	Part No.	Qty.	Description
1	02961143	1	BOOM REST WELDMENT
2	02970118	1	FRAME RAIL SUPPORT KIT
3	02981971	1	COMPONENT BOX, W/ JOYSTICK
4	02980343	1	RAIL WELDMENT, LH
5	02980344	1	RAIL WELDMENT, RH
6	02980385	1	LEXAN CAGE KIT, NH TB ROPS

(Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Joystick Valve Control)

02981971 Component Box: Consist of the following Item No.

Item	Part No.	Qty	Description
1	00679800	1	PIGTAIL BRACKET
2	02014500	2	MOUNTING TUBE
3	02026200	2	HOSE CLAMP, 1-5/16" TO 2-1/ 4"
4	02512800	1	SUCT/HOSE, SUCTION, #24 X 84" LG
5	02513000	1	HOSE, #8 - 8FJX - 8FJX90 - 108" LG
6	02702900	1	HUB
7	02725900	2	SUPPORT PLATE
8	02726700	1	AXLE MOUNT STRAP
9	02957635	1	SPLINE COUPLER, 7/8" X 13-SPLINES
10	02961826	1	FRONT PUMP ASY, TANDEM
11	02966404	1	SPACER, MACHINED
12	02966909	1	DRAWING, ADJUSTABLE BOOM REST PLATE
13	02971538	1	PLATE, BOOM REST
14	02959770	3	HOSE SUPPORT RING
15	02960409	1	ADAPTER TUBE, ELBOW 20MJ - 20FJX 90°
16	02980342	1	BOLT BAG ASY.
17	02980349	1	PLATE, PUMP MOUNT
18	106733	1	DRIVESHAFT, 14.06" LG (7/8X7/8 W/13 SPLINE)
19	02975894	1	HOSE, #20 - 20FJX - 20FJX90 - 156" LG
20	02961096	1	HOSE, #20 - 20FJX - 20FJX - 56" LG
21	02980885	1	FRONT MOUNT, LH
22	02980886	1	FRONT MOUNT, RH
23	02981972	1	JOYSTICK MOUNT KIT
Item	**Part No.**	**Qty.**	**Description**

Component Box P/N 02981971 is in Mount Kit P/N 02981970 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Joystick Valve Control)

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Component ID (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD)

02980342 Bolt Bag: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	00000200	4	NUT, HEX 3/4"-NC PL
2	00001200	4	NUT, HEX 1/2"-NC PL
3	00001300	6	LOCKWASHER, 1/2"
4	00002700	8	FLATWASHER, 1/2" PL STD
5	00003901	20	LOCKWASHER, 3/4" PL
6	00022200	4	LOCKWASHER, 7/16" PL
7	00037200	8	LOCKNUT, TOPLOCK 3/4"-
8	02758400	8	BOLT, HEX HEAD 3/4"-NC X 9" PL GR8
9	02892000	2	BOLT, HEX HEAD 1/2"-13NC x 1-1/2" PL GR8
10	02918600	16	BOLT, HEX HEAD 3/4"-10NC X 2" PL GR8
11	02956765	4	BOLT, HEX HEAD 1/2"-NC X 4-1/2" PL GR8
12	02957039	4	BOLT, HEX HEAD 3/4"-NC X 10-1/2" PL GR8
13	02959344	4	BOLT, SCKT HD CNTER SUNK HD 3/4"-NC X 1-3/4" PL GR8
14	02965355	4	BOLT, HEX HEAD 7/16" NC X 3-1/2" PL GR8

Bolt Bag P/N 02980342 is in Component Box P/N 02980341 which is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Joystick Valve Control)

02970118 Frame Rail Support Kit: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	02970086	1	TUBE, CROSSMEMBER RAIL STIFFENER
2	02970115	2	WELDMENT,RAIL STIFFNER
3	5JRC1680	4	NUT, TOPLOCK 1"-8NC PL
4	02980513	4	BOLT, HEX HEAD 1" -8NC X 4-1/4" LG PL GR8

Frame Rail Support Kit P/N 02970118 is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Joystick Valve Control)

02980385 Lexan Cage Kit: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	02980391	1	CAGE ASSEMBLY W/ LEXAN (ROPS)
	02980386	1	CAGE WELDMENT ONLY (ROPS)
	02959924	16	LOCKNUT, TOPLOCK 1/4"-NC PLB
	10058000	6	BOLT, HEX HEAD 1/4"-NC X 1" PL GR5
	10070000	10	BOLT, HEX HEAD 1/4"-NC X 2-1/2" PL GR5
	02980086	32	SEALING WASHER, NEOPRENE FACE
	02980362	1	LEXAN SHEET, UPPER
	02979941	1	LEXAN SHEET, LOWER
2	02980365	3	U-BOLT, 1/2"-13 X 5" X 3-1/2"
3	00001800	6	LOCKNUT, TOPLOCK 1/2"-NC PLB
4	00002700	8	FLATWASHER,1/2" PL STD
5	00001300	2	LOCKWASHER, 1/2"
6	03101254	2	BOLT, HEX HEAD M12-P1.25 X 25MM PL GR10.9

Lexan Cage Kit P/N 02980385 is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Joystick Valve Control)

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Component ID (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD)

02981972 Joystick Mount Kit: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	02981407	1	JOYSTICK MOUNT WELDMENT
2	02981973	1	PLATE, FENDER SUPPORT
3	00753642	2	BOLT, HEX HEAD 3/8"- NC X 1-1/4" PL GR5
4	00015800	2	LOCKNUT, TOPLOCK 3/8"-NC

Joystick Moun Kit P/N 02981972 is in Component Box P/N 02981971 which is in Mount Kit P/N 02981970 **(Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Joystick Valve Control)**

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Component ID (Used on NH TB-100 & TB-110 ROPS & Canopy 2 & 4 WD)

New Holland TB-100 & TB-110 ROPS W/ CANOPY / 2 & 4 wd (W/ Manual Valve Control Handles)

IMPORTANT NOTICE: The following Part / Assembly Numbers are for reference and should not be ordered as replacement parts, unless all the components in that assembly are wanted. These will break down to bills of material of the components. Some of numbers listed are NOT individual Parts but complete assemblies and/or box of assemblies. Check before ordering.

02980340 A-Boom Mount Kit - (NH TB-100 & TB-110 ROPS W/ Canopy 2 & 4 WD) Consist of the Following Items

Item	Part No.	Qty.	Description
1	02961143	1	BOOM REST WELDMENT
2	02970118	1	FRAME RAIL SUPPORT KIT
3	02980341	1	COMPONENT BOX
4	02980343	1	RAIL WELDMENT, LH
5	02980344	1	RAIL WELDMENT, RH
6	02980364	1	LEXAN CAGE KIT, NH TB ROPS & CANOPY

(Used on NH TB-100 & TB-110 ROPS & Canopy 2 & 4 WD W/ Manual Valve Control Handles)

02980341 Component Box: Consist of the following Item No.

Item	Part No.	Qty	Description
1	00679800	1	PIGTAIL BRACKET
2	02014500	2	MOUNTING TUBE
3	02026200	2	HOSE CLAMP, 1-5/16" TO 2-1/ 4"
4	02512800	1	SUCT/HOSE, SUCTION, #24 X 84" LG
5	02513000	1	HOSE, #8 - 8FJX - 8FJX90 - 108" LG
6	02702900	1	HUB
7	02725900	2	SUPPORT PLATE
8	02726700	1	AXLE MOUNT STRAP
9	02957635	1	SPLINE COUPLER, 7/8" X 13-SPLINES
10	02961826	1	FRONT PUMP ASY, TANDEM
11	02966404	1	SPACER, MACHINED
12	02966909	1	DRAWING, ADJUSTABLE BOOM REST PLATE
13	02971538	1	PLATE, BOOM REST
14	02959770	3	HOSE SUPPORT RING
15	02960409	1	ADAPTER TUBE, ELBOW 20MJ - 20FJX 90°
16	02980342	1	BOLT BAG ASY.
17	02980349	1	PLATE, PUMP MOUNT
18	106733	1	DRIVESHAFT, 14.06" LG (7/8X7/8 W/13 SPLINE)
19	02975894	1	HOSE, #20 - 20FJX - 20FJX90 - 156" LG
20	02961096	1	HOSE, #20 - 20FJX - 20FJX - 56" LG
21	02980885	1	FRONT MOUNT, LH
22	02980886	1	FRONT MOUNT, RH

Component Box P/N 02980341 is in Mount Kit P/N 02980340 (Used on NH TB-100 & TB-110 ROPS & Canopy 2 & 4 WD W/ Manual Valve Control Handles)

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Component ID (Used on NH TB-100 & TB-110 ROPS & Canopy 2 & 4 WD)

02980342 Bolt Bag: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	00000200	4	NUT, HEX 3/4"-NC PL
2	00001200	4	NUT, HEX 1/2"-NC PL
3	00001300	6	LOCKWASHER, 1/2"
4	00002700	8	FLATWASHER, 1/2" PL STD
5	00003901	20	LOCKWASHER, 3/4" PL
6	00022200	4	LOCKWASHER, 7/16" PL
7	00037200	8	LOCKNUT, TOPLOCK 3/4"-
8	02758400	8	BOLT, HEX HEAD 3/4"-NC X 9" PL GR8
9	02892000	2	BOLT, HEX HEAD 1/2"-13NC x 1-1/2" PL GR8
10	02918600	16	BOLT, HEX HEAD 3/4"-10NC X 2" PL GR8
11	02956765	4	BOLT, HEX HEAD 1/2"-NC X 4-1/2" PL GR8
12	02957039	4	BOLT, HEX HEAD 3/4"-NC X 10-1/2" PL GR8
13	02959344	4	BOLT, SCKT HD CNTER SUNK HD 3/4"-NC X 1-3/4" PL GR8
14	02965355	4	BOLT, HEX HEAD 7/16" NC X 3-1/2" PL GR8

Bolt Bag P/N 02980342 is in Component Box P/N 02980341 which is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles)

02970118 Frame Rail Support Kit: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	02970086	1	TUBE, CROSSMEMBER RAIL STIFFENER
2	02970115	2	WELDMENT,RAIL STIFFNER
3	5JRC1680	4	NUT, TOPLOCK 1"-8NC PL
4	02980513	4	BOLT, HEX HEAD 1" -8NC X 4-1/4" LG PL GR8

Frame Rail Support Kit P/N 02970118 is in Mount Kit P/N 02980340 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles)

02980364 Lexan Cage Kit: Consist of the following Item No.

Item	Part No.	Qty	Description
1	02980363	1	ASY CAGE W/ LEXAN (ROPS)
	02980323	1	CAGE WELDMENT ONLY, (ROPS)
	02959924	16	LOCKNUT, TOPLOCK 1/4"-NC PLB
	10058000	6	BOLT, HEX HEAD 1/4"-NC X 1" PL GR5
	10070000	10	BOLT, HEX HEAD 1/4"-NC X 2-1/2" PL GR5
	02980086	32	SEALING WASHER, NEOPRENE FACE
	02980362	1	LEXAN SHEET, UPPER
	02979941	1	LEXAN SHEET, LOWER
2	02980365	2	U-BOLT 1/2-13 X 5 X 3 1/2
3	00001800	4	LOCKNUT TLM 1/2 NC PLB
5	00002700	6	FLATWASHER 1/2 PL STD
7	00001300	2	LOCKWASHER 1/2
8	03101254	2	HEXB M12-P1.25 x 25mm PL10.9

Lexan Cage Kit P/N 02980364 is in Mount Kit P/N 02980340 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles)

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New Holland TB-100 & TB-110 ROPS W/ CANOPY / 2 & 4 wd (W/ Manual Valve Control Handles) 28' A-Boom Only

IMPORTANT NOTICE: The following Part / Assembly Numbers are for reference and should not be ordered as replacement parts, unless all the components in that assembly are wanted. These will break down to bills of material of the components. Some of numbers listed are NOT individual Parts but complete assemblies and/or box of assemblies. Check before ordering.

02982003 F/ 28' A-Boom Mount Kit - (NH TB-100 & TB-110 ROPS W/ Canopy 2 & 4 WD) Consist of the Following Items

Item	Part No.	Qty.	Description
1	02961279	1	BOOM REST WELDMENT
2	02970118	1	FRAME RAIL SUPPORT KIT
3	02980341	1	COMPONENT BOX
4	02980343	1	RAIL WELDMENT, LH
5	02980344	1	RAIL WELDMENT, RH
6	02980364	1	LEXAN CAGE KIT, NH TB ROPS & CANOPY

(Used on NH TB-100 & TB-110 ROPS & Canopy 2 & 4 WD W/ Manual Valve Control Handles) 28' Boom Only

02980341 Component Box: Consist of the following Item No.

Item	Part No.	Qty	Description
1	00679800	1	PIGTAIL BRACKET
2	02014500	2	MOUNTING TUBE
3	02026200	2	HOSE CLAMP, 1-5/16" TO 2-1/ 4"
4	02512800	1	SUCT/HOSE, SUCTION, #24 X 84" LG
5	02513000	1	HOSE, #8 - 8FJX - 8FJX90 - 108" LG
6	02702900	1	HUB
7	02725900	2	SUPPORT PLATE
8	02726700	1	AXLE MOUNT STRAP
9	02957635	1	SPLINE COUPLER, 7/8" X 13-SPLINES
10	02961826	1	FRONT PUMP ASY, TANDEM
11	02966404	1	SPACER, MACHINED
12	02966909	1	DRAWING, ADJUSTABLE BOOM REST PLATE
13	02971538	1	PLATE, BOOM REST
14	02959770	3	HOSE SUPPORT RING
15	02960409	1	ADAPTER TUBE, ELBOW 20MJ - 20FJX 90°
16	02980342	1	BOLT BAG ASY.
17	02980349	1	PLATE, PUMP MOUNT
18	106733	1	DRIVESHAFT, 14.06" LG (7/8X7/8 W/13 SPLINE)
19	02975894	1	HOSE, #20 - 20FJX - 20FJX90 - 156" LG
20	02961096	1	HOSE, #20 - 20FJX - 20FJX - 56" LG
21	02980885	1	FRONT MOUNT, LH
22	02980886	1	FRONT MOUNT, RH

Component Box P/N 02980341 is in Mount Kit P/N 02980340 (Used on NH TB-100 & TB-110 ROPS & Canopy 2 & 4 WD W/ Manual Valve Control Handles) 28' Boom Only

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Component ID (Used on NH TB-100 & TB-110 ROPS & Canopy 2 & 4 WD)

02980342 Bolt Bag: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	00000200	4	NUT, HEX 3/4"-NC PL
2	00001200	4	NUT, HEX 1/2"-NC PL
3	00001300	6	LOCKWASHER, 1/2"
4	00002700	8	FLATWASHER, 1/2" PL STD
5	00003901	20	LOCKWASHER, 3/4" PL
6	00022200	4	LOCKWASHER, 7/16" PL
7	00037200	8	LOCKNUT, TOPLOCK 3/4"-
8	02758400	8	BOLT, HEX HEAD 3/4"-NC X 9" PL GR8
9	02892000	2	BOLT, HEX HEAD 1/2"-13NC x 1-1/2" PL GR8
10	02918600	16	BOLT, HEX HEAD 3/4"-10NC X 2" PL GR8
11	02956765	4	BOLT, HEX HEAD 1/2"-NC X 4-1/2" PL GR8
12	02957039	4	BOLT, HEX HEAD 3/4"-NC X 10-1/2" PL GR8
13	02959344	4	BOLT, SCKT HD CNTER SUNK HD 3/4"-NC X 1-3/4" PL GR8
14	02965355	4	BOLT, HEX HEAD 7/16" NC X 3-1/2" PL GR8

Bolt Bag P/N 02980342 is in Component Box P/N 02980341 which is in Mount Kit P/N 02980393 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles) 28' Boom Only

02970118 Frame Rail Support Kit: Consist of the following Item No.

Item	Part No.	Qty.	Description
1	02970086	1	TUBE, CROSSMEMBER RAIL STIFFENER
2	02970115	2	WELDMENT,RAIL STIFFNER
3	5JRC1680	4	NUT, TOPLOCK 1"-8NC PL
4	02980513	4	BOLT, HEX HEAD 1" -8NC X 4-1/4" LG PL GR8

Frame Rail Support Kit P/N 02970118 is in Mount Kit P/N 02980340 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles) 28' Boom Only

02980364 Lexan Cage Kit: Consist of the following Item No.

Item	Part No.	Qty	Description
1	02980363	1	CAGE ASSEMBLY W/ LEXAN (ROPS)
	02980323	1	CAGE WELDMENT ONLY, (ROPS)
	02959924	16	LOCKNUT, TOPLOCK 1/4"-NC PLB
	10058000	6	BOLT, HEX HEAD 1/4"-NC X 1" PL GR5
	10070000	10	BOLT, HEX HEAD 1/4"-NC X 2-1/2" PL GR5
	02980086	32	SEALING WASHER, NEOPRENE FACE
	02980362	1	LEXAN SHEET, UPPER
	02979941	1	LEXAN SHEET, LOWER
2	02980365	2	U-BOLT, 1/2"-13 X 5" X 3-1/2"
3	00001800	4	LOCKNUT. TOPLOCK 1/2"-NC PLB
5	00002700	6	FLATWASHER,1/2" PL STD
7	00001300	2	LOCKWASHER, 1/2"
8	03101254	2	BOLT, HEX HEAD M12-P1.25 X 25MM PL GR10.9

Lexan Cage Kit P/N 02980364 is in Mount Kit P/N 02980340 (Used on NH TB-100 & TB-110 ROPS Only 2 & 4 WD W/ Manual Valve Control Handles) 28' Boom Only

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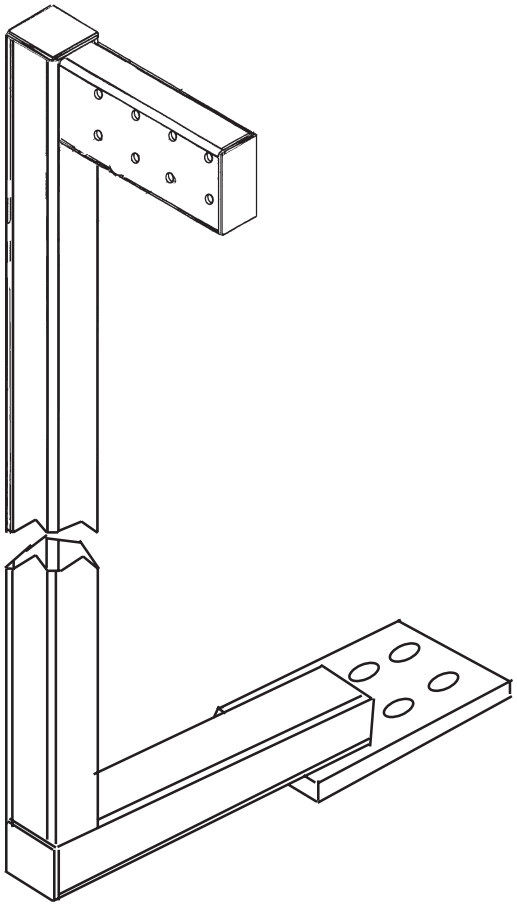
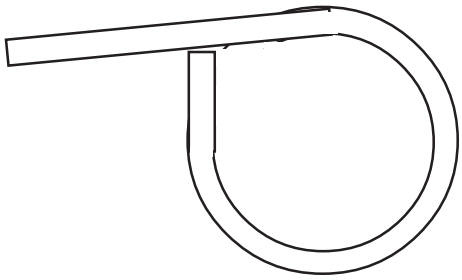
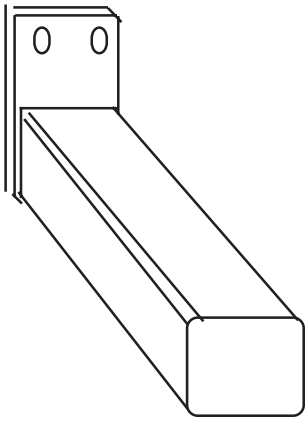
Component ID



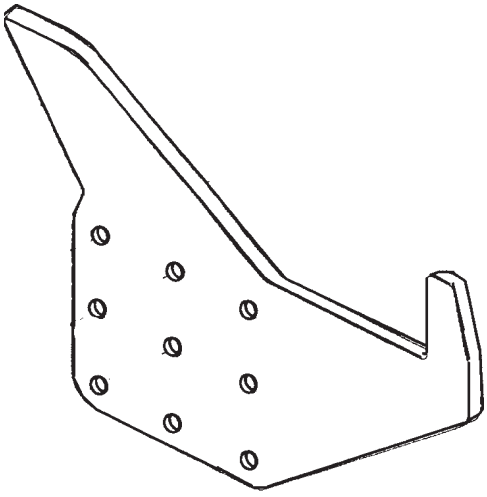
P/N 02961143
Boom Rest Weldment



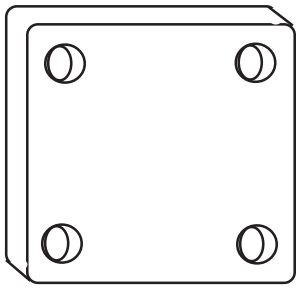
P/N 00679800
Hose Support Pigtail
Bracket (Weld On)



P/N 02014500
Mounting Tube Weldment



P/N 02971538
Boom Rest Plate
(Adjustable)



P/N 02725900
Support Plate
(1/2" Tk X 8" X 8" Sq w/
13/16" Holes on 6" center)

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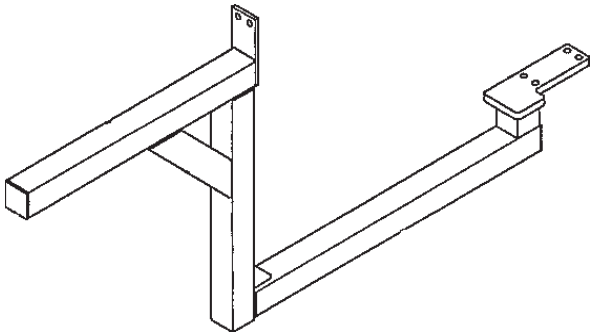
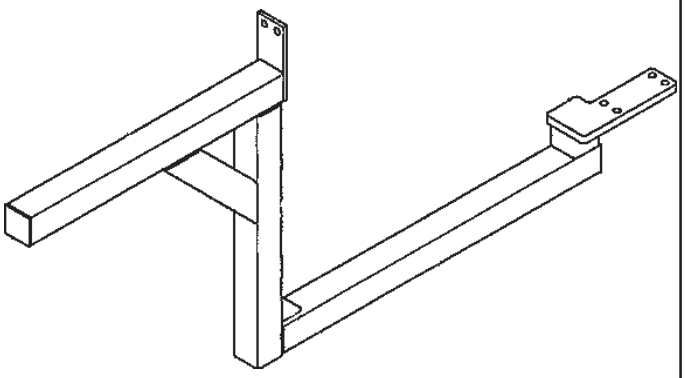
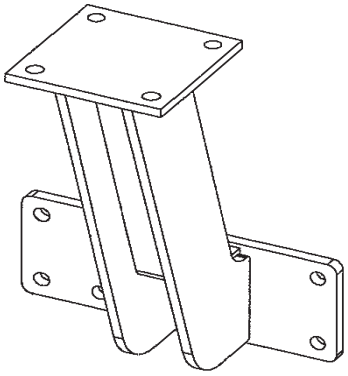
Component ID



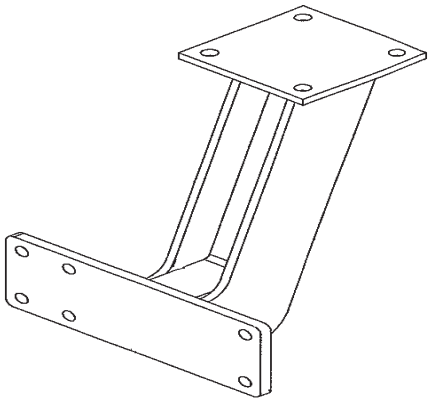
P/N 02980343
Frame Rail Weldment, LH



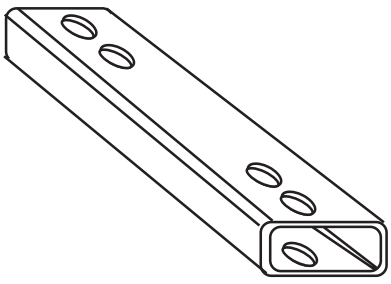
P/N 02980344
Frame Rail Weldment, RH



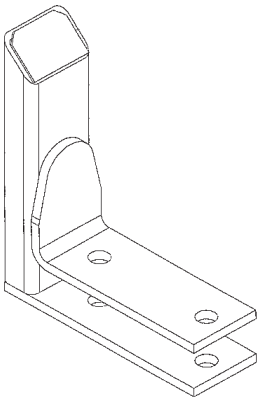
P/N 02980885
Front Mount LH



P/N 02980886
Front Mount RH



P/N 02970086
Tube, Crosmember Rail
Stiffener



P/N 02970115
Rail Support Weldment
(LH or RH Side Same)

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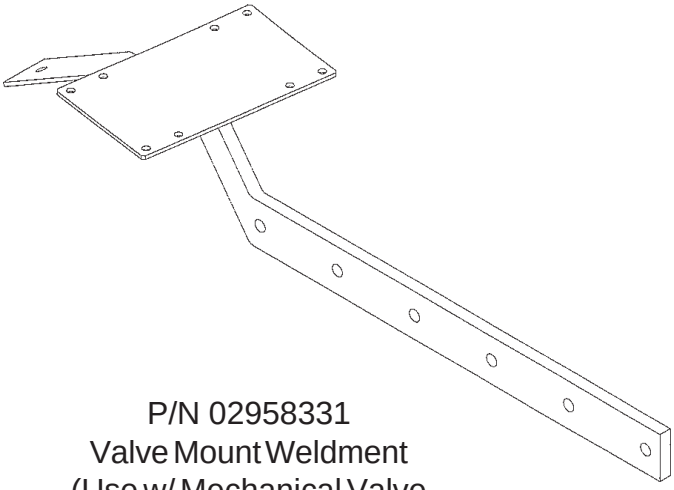
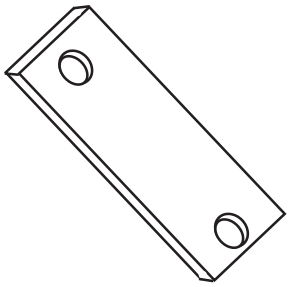
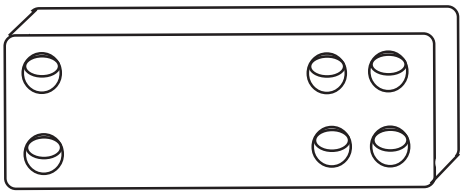
Component ID



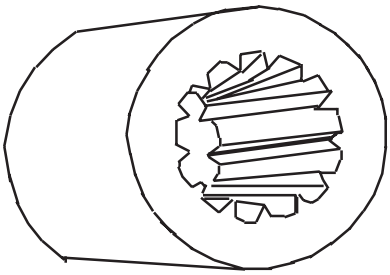
P/N 02958331
Valve Mount Weldment
(Use w/ Mechanical Valve Control)



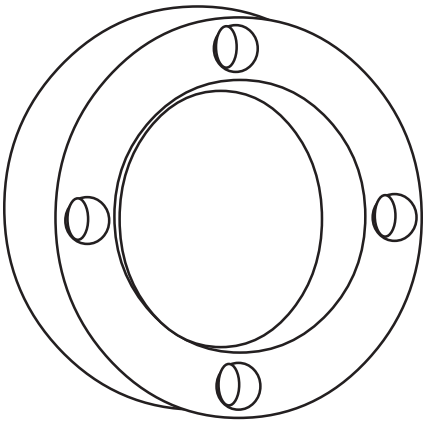
P/N 02821400
Valve Mount Strap
(Use w/ Mechanical Valve Control)



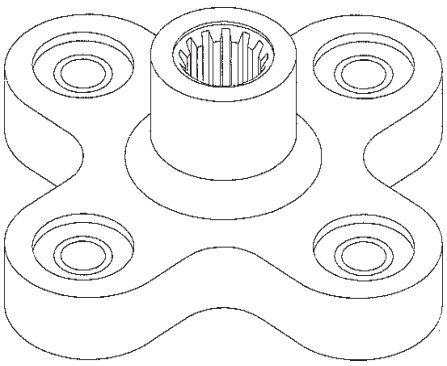
P/N 02726700
Axle Mount Strap
(3/4" Tk X 9-3/4" lg " X 4" wd w/ 7/8" Holes)



P/N 02957635
Splined Coupler
(7/8" X 19 Spline)



P/N 02966404
Hub Spacer



P/N 02702900
Hub 7/8" X 13 Spline

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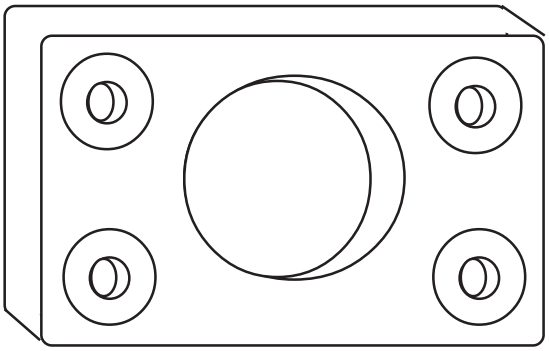
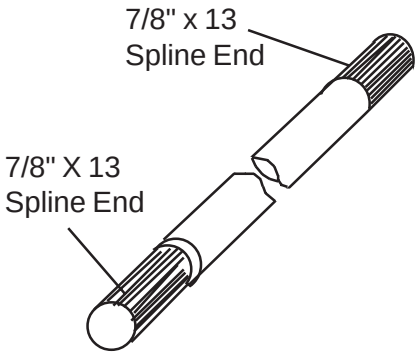
Component ID

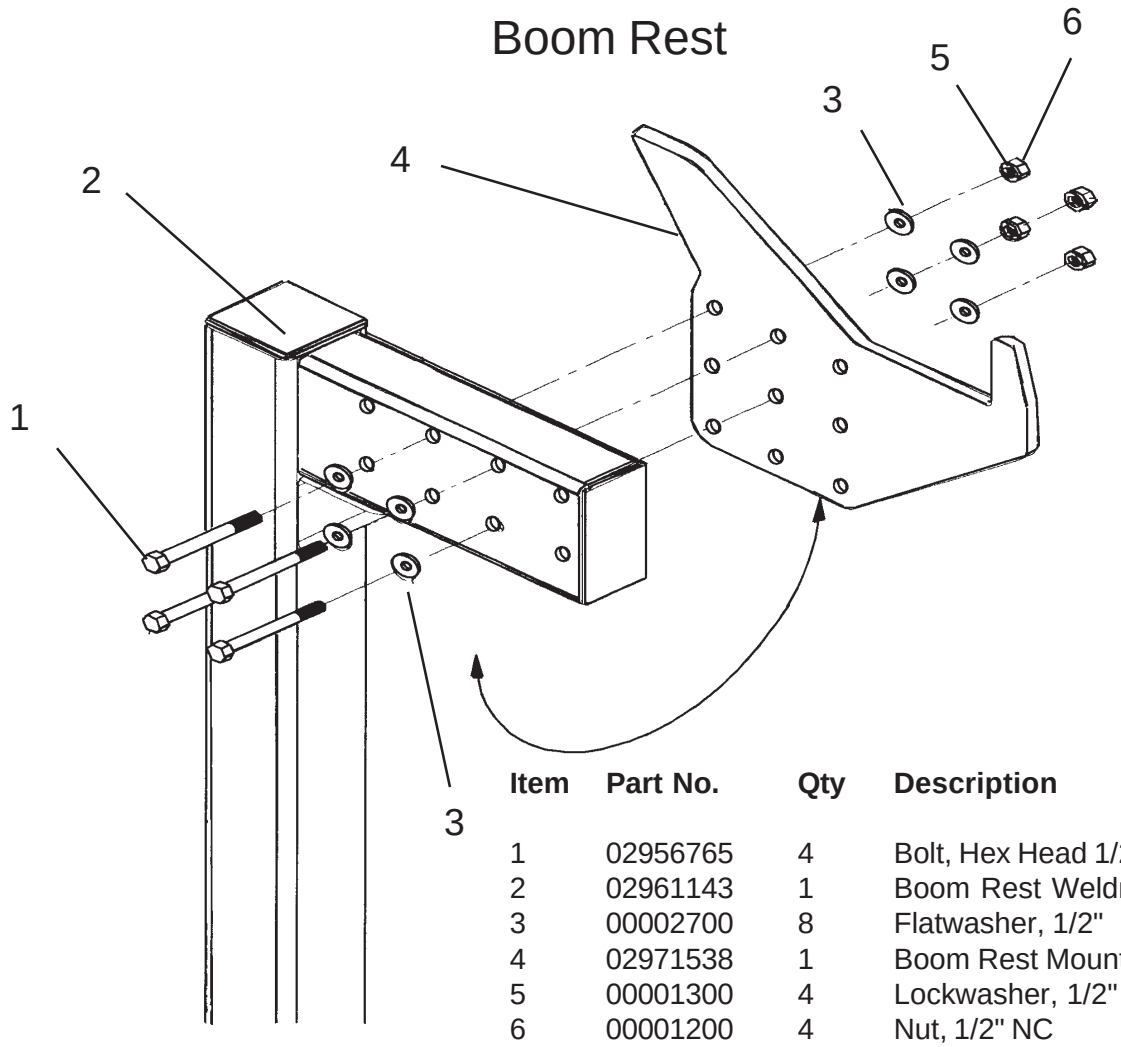


P/N 02980349
Pump Mount Plate
(w/ 4 Countersunk Holes)



P/N 106733
Drive Shaft
(7/8" X 7/8" w/ 13 Spline 14.06" lg)

Boom Rest



Item	Part No.	Qty	Description
1	02956765	4	Bolt, Hex Head 1/2" NC X 4-1/2"
2	02961143	1	Boom Rest Weldment
3	00002700	8	Flatwasher, 1/2"
4	02971538	1	Boom Rest Mount Plate
5	00001300	4	Lockwasher, 1/2"
6	00001200	4	Nut, 1/2" NC

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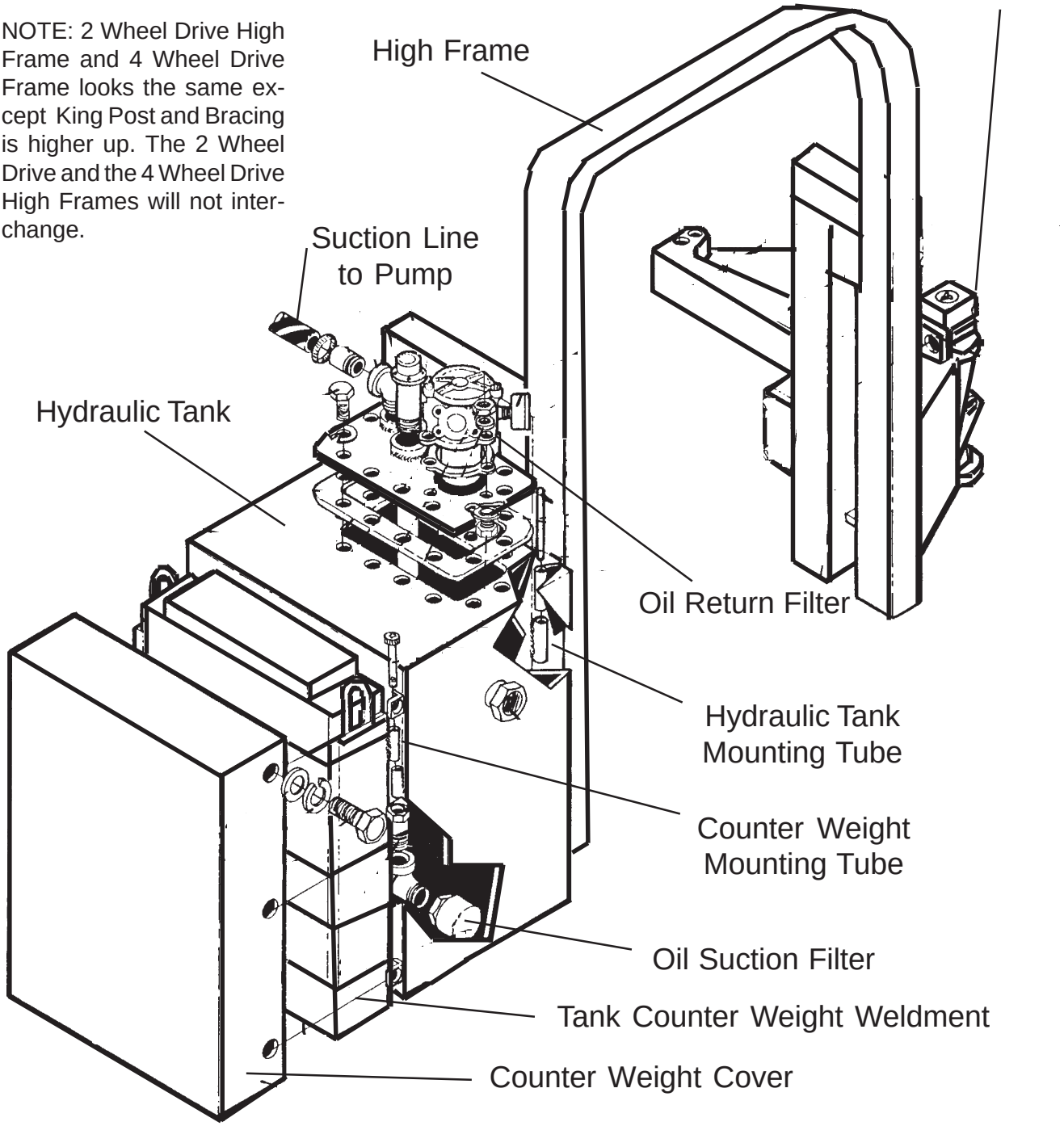
Mount Kit Component Identification

High Frame & King Post Asy

NOTE: 2 Wheel Drive High Frame and 4 Wheel Drive Frame looks the same except King Post and Bracing is higher up. The 2 Wheel Drive and the 4 Wheel Drive High Frames will not interchange.



NOTE: Shown above is a general view of the High Frame, Counter Weight and Cover and may not look the same as the one for your application. The Assembly procedures will be the same even if the shape of Tank and Weight are different than shown.

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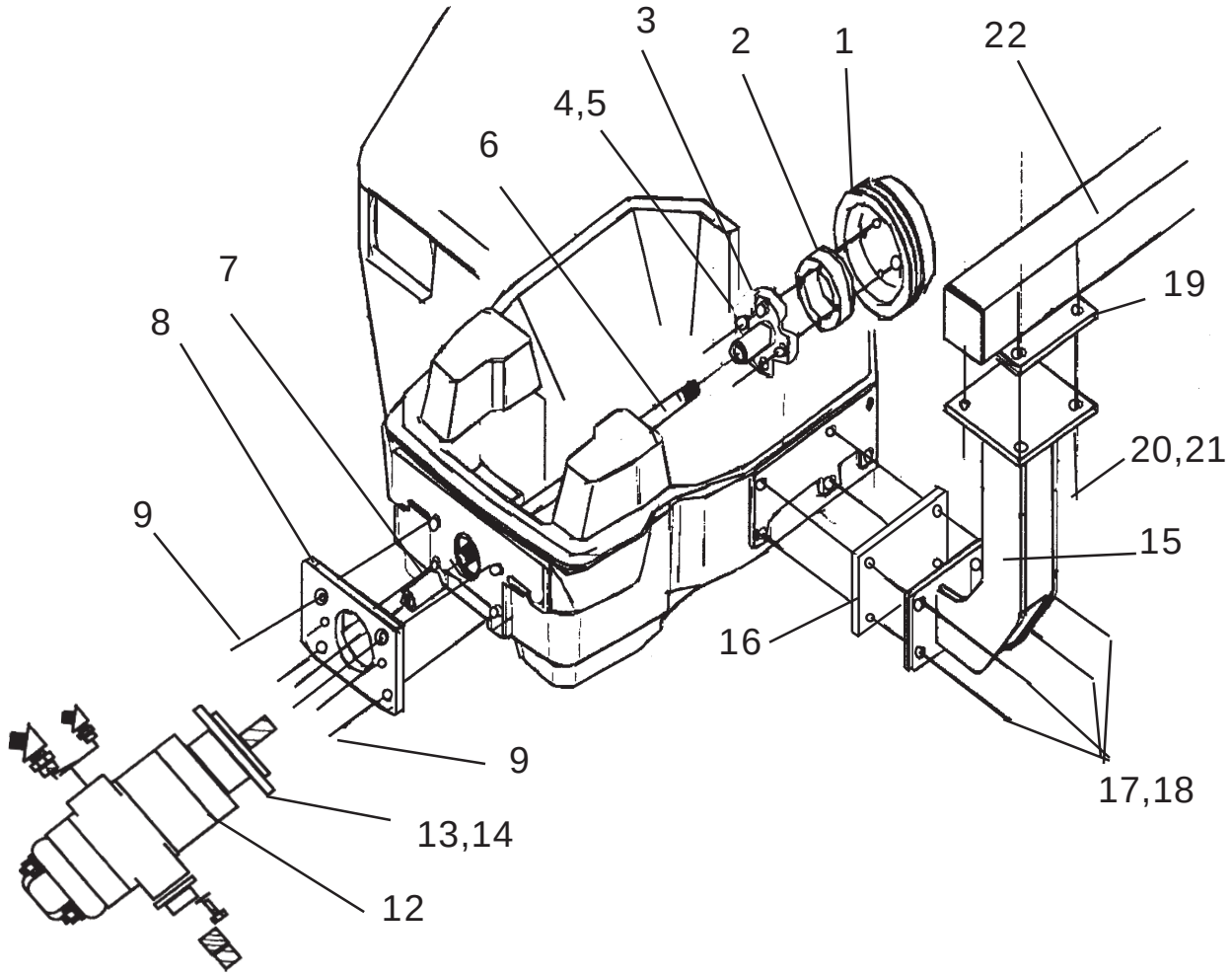
Mount Kit Component Identification

Front Mount Weldments, Pump & Pump Drive Components



Note:
These components are listed to be used with the Tractors this manual is intended for and at the date of this manuals printing, see the bottom of pages for Tractor Type and date of this manual. This manual is shipped with the A-Boom Mount Kit and should remain with the tractor & A-Boom for reference later. As Changes are made to components the numbers listed here may change.

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Mount Kit Component Identification

Front Mount Weldments, Pump & Pump Drive Components

Item	Part No.	Qty.	Description
1.	----------	1	Tractor Crank Shaft Pulley
2.	02966404	1	Spacer, f/ Front Pulley Adapter
3.	02702900	1	Pulley Adapter
4.	02965355	4	Bolt, Hex Head 7/16" -NC X 3-1/2" PL GR8
5.	00022200	4	Lockwasher, 7/16" PL
6.	106733	1	Driveshaft, 7/8" X 13 Spl X 14.06" LG
7.	02957635	1	Splined Coupler, 7/8" X 13 Internal Spline
8.	02980349	1	Pump Mount Plate, Machined
9.	02959344	4	Bolt, Socket Head Counter Sunk Head 3/4"-NC X 1-3/4" PL GR8
12.	02961826	1	Tandem Front Pump Asy.
13.	02892000	2	Bolt, Hex Head 1-2"-13 NC X 1-1/2" PL 8
14	00001300	2	Lockwasher, 1/2"
15.	02973159	2	Front Mount Weldment (1 ea LH or RH Same)
17.	02918600	12	Bolt, Hex Head 3/4"-10NC X 2" PL GR8 (6 Each Side)
18.	00003901	12	Lockwasher, 3/4" PL (6 Each Side)
19.	02725900	2	Support Plate (will be welded to frame Rail, 1 ea. side)
20.	02918600	8	Bolt, 3/4"-10 NC X 2" PL 8 (4 ea. side)
21.	00037200	8	Locknut, 3/4"-10 NC
22.	02980343	1	Frame Rail Weldment LH Side (Shown)
	02980344	1	Frame Rail Weldment RH Side (Not Shown)

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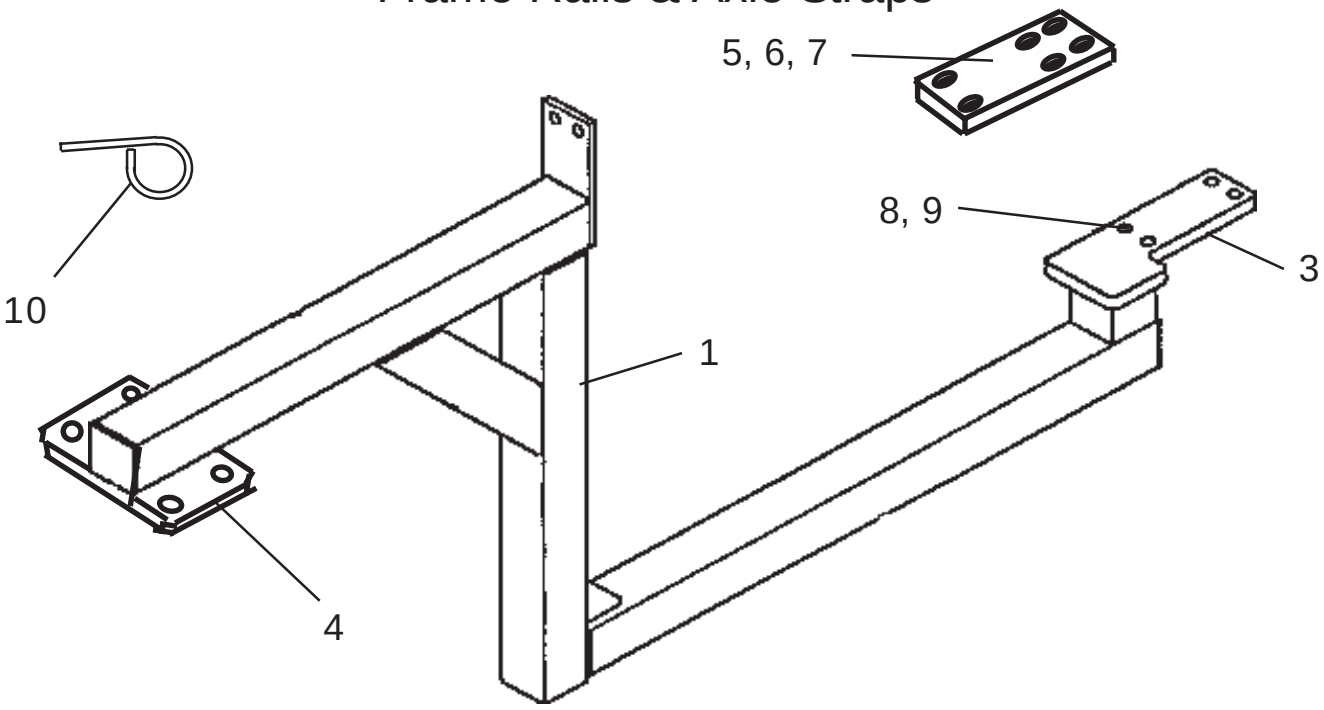
Mount Kit Component Identification

Frame Rails & Axle Straps



Item	Part No.	Qty	Description
1.	02980343	1	Frame Rail Weldment, LH (Shown)
	02980344	1	Frame Rail Weldment, RH (Not Shown)
3.	----------	2	Rear Mounting Plate (Welded on LH and RH Frame Rail)
4.	02725900	2	Support Plate (not welded to frame rail when received)
5.	02726700	2	Axle Strap, Fit above Axle. (1 ea. side)
6.	02758400	8	BOLT, HEX HEAD 3/4"-NC X 9" PL GR8
	02966321	2	Bolt, Axle Strap Hex Head 1" - 11 NC X 12" Pl (RH Side)
7.	02030300	4	Locknut, 1" - 11 NC
8.	----------	4	Bolt, Hex Head (LH Side)
	----------	4	Bolt, Hex Head (RH Side)
9.	----------	8	Lockwasher
10.	00679800	2	Hose Support Bracket Pigtail (Weld on Hose Support).

Note:

Item 3 is welded to both LH and RH Frame Rails from the factory. Item 4 will be welded on during assembly procedures. Do not weld on any components until instructed to do so, then check instructions carefully because some components are only to be tack welded then removed to be welded later.

Actual Tube Design may vary from drawing above. Shown above is a general Frame Rail Weldment. While Frame Rails may be designed different the mounting process will be the same.

3 Point Arm Stabilizers on tractor will have to be removed when mounting Frame rails and will have to be modified to be used again. This modification will be customers responsibility.

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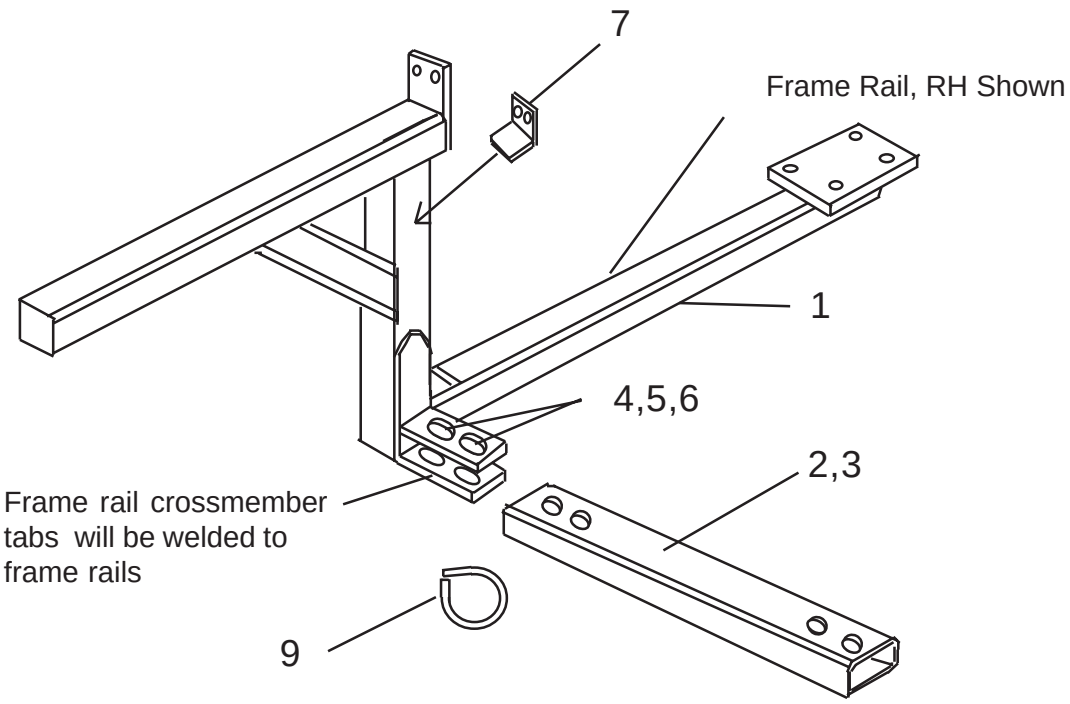
Mount Kit Component Identification

Frame Crossmember



Item	Part No.	Qty	Description
1.	02980344	1	Frame Rail (RH Shown)
	02980343	1	Frame Rail (LH Not Shown)
2.	02970118	1	Frame Rail Support Kit (Items 3 thru 6)
3.	02970086	1	Crossmember Tube
4.	02970115	2	Rail Stiffener Weldment
5.	02980513	4	Bolt, 1" X 4-1/4" gr. 8
6.	5JRC16180	4	Locknut, 1" NC (Toplock)
7.	02958473	1	Valve Mount Bracket, (Weld on RH Frame rail)
8.	02959770	2	Hose Support Ring, Weld On f/ Return Hose Support

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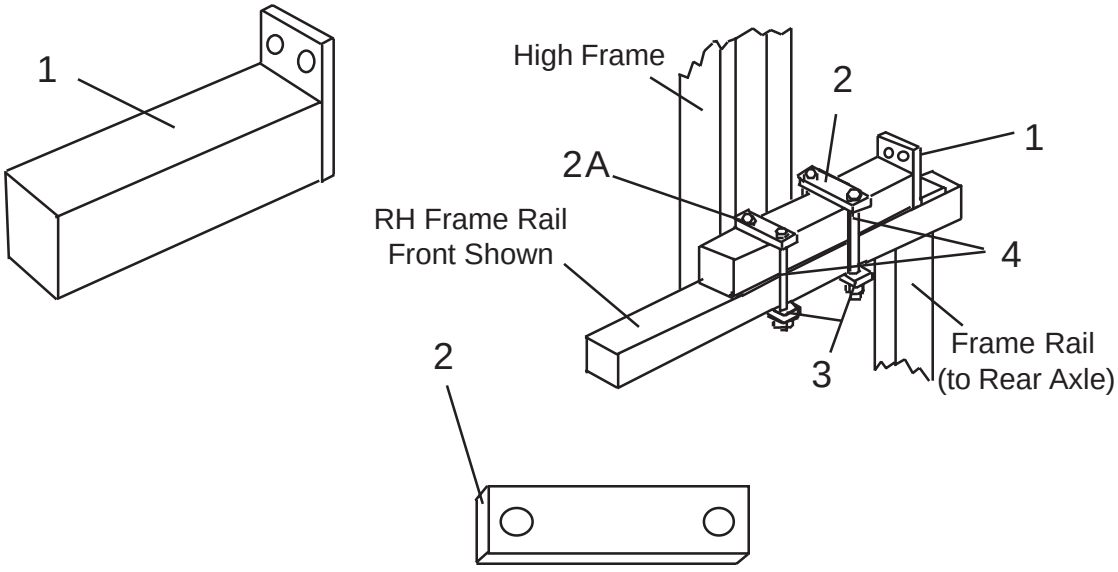
Mount Kit Component Identification

High Frame Mounting Tube Components



Item	Part No.	Qty	Description
1	02014500	2	Mounting Tube
	02918600	4	Bolt, 3/4" X 2" Long (Not Shown)
	00037200	4	Locknut, 3/4" Toplock (Not Shown
2	02966639	8	Bar Mounting Strap
2A	----------	a/r	Bar Mounting Strap (cut item 2)
3	00037200	8	Locknut 3/4", Toplock
4	02957039	8	Bolt, 3/4" X 10-1/2" Long

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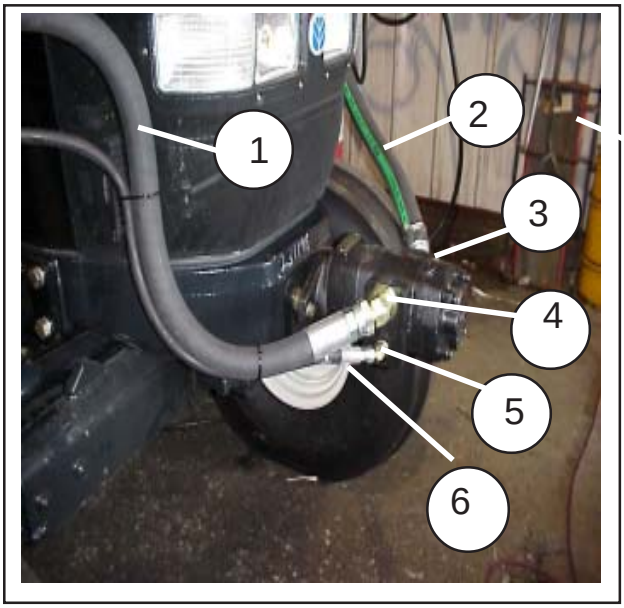
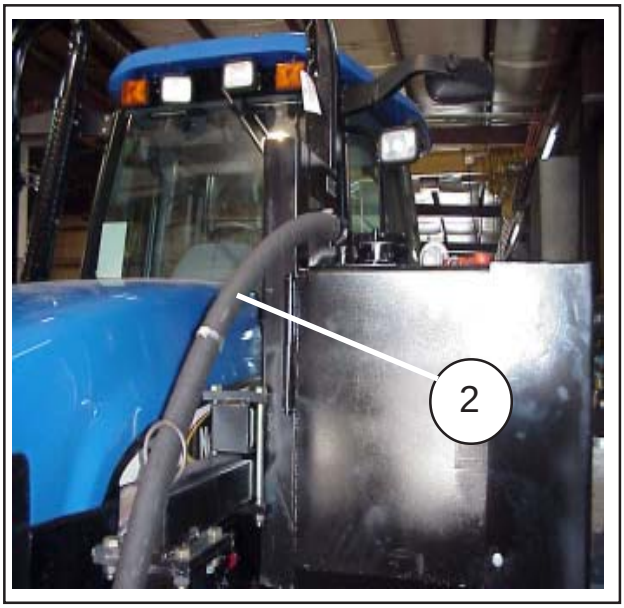
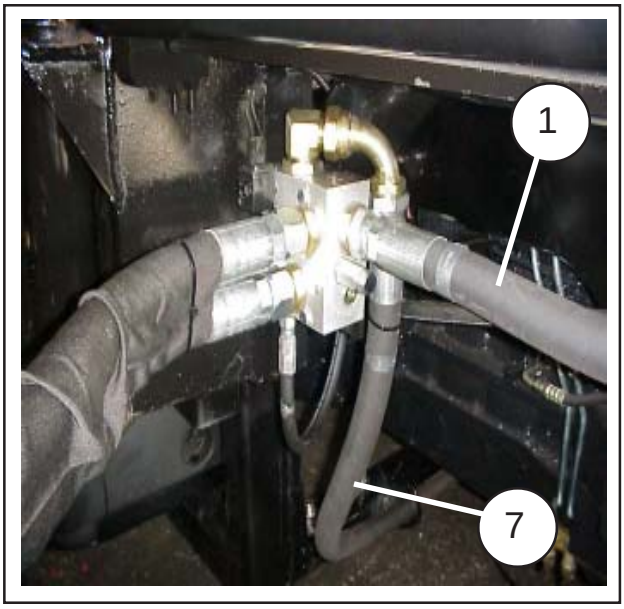
Mount Kit Component Identification

Pump Hoses & Fittings







Item	Part No.	Qty	Description
1.	02961096	1	Hose, #20-20FJX -20FJX X 56" LG
2	02512800	1	Hose, Suction #24 X 84" LG
	02026200	2	Hose Clamp, (f/ Suction Hose 1 ea. End)
3.	00749101	1	Split Flange Kit (f/ Suction Hose)
	02979375	1	Flange Fitting, 45 deg. (f/ Suction Hose)
4.	02961825	1	Elbow Adapter, 20 MB - 20MJ 45 deg.
5.	02962214	1	Elbow Adapter, 8 MB - 8 MJ 45 deg.
6.	02513000	1	Hose, #8 - 8FJX - 8 FJX90 X 108" LG
7	02975894	1	Hose, #20 - 20FJX - 20FJX90 - 156" LG

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NOTES

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A-Boom
New Holland TB-100 & TB-110
Assembly Manual
2005 Edition
P/N 02982978

A-Boom (NH TB-100 & TB-110 Asy. Man.) 07/05

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